MSM
MAASTRICHT SCHOOL OF MANAGEMENT

The Impact of Banks' Recapitalization on the Performance of Banks and Real Sector Lending: An Analysis of the Indonesia's Economic Recovery from the Crises of 1997-1998

by

Batara Maju Simatupang

No. M.Phil/SJ/B2004021

Republic of Indonesia

"A paper submitted in partial fulfillment of the requirements of the degree of Master of Philosophy (M.Phil) awarded by the Maastricht School of Management (MSM), the Netherlands (November 2005)."

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Doctoral Daily Supervisor

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PREFACE

The word *crisis* is one word that invokes fear and has varied and wide impact on human life and activities in the world. It does not matter where the individual human being resides on the surface of the globe. Crisis involves a threat that people face as individuals or collectively as a group or country. This research proposal is a very hand in glove one in its bearing on erisis, that is a currency crisis dovetailing into a financial crisis. Before the crisis in East Asia, the growth of the East Asian economies earned them the accolade of the "Asian Economic Miracle." Suddenly, all that changed with a eurrency crisis that escalated into deep, financial crisis in 1997, called the "Asian Economic Crisis."

Krugman and Obstfeld (2003) summarized that a large part of what made the Asian crisis so devastating was that it was not purely a currency crisis, but rather a currency crisis inextricably mixed with banking and financial crisis. Concerning the banking crisis in Indonesia, the government also decided to carry out the banks' restructuring program through national banks' recapitalization by issuing recapitalization bonds for 36 banks. The banks' recapitalization brought positive implications for many sectors, especially its impact on the banking intermediation function such as reforming the real sector as an engine of growth.

Unfortunately, the program of recapitalization was accompanied by the problem that the banks could not directly run their function as intermediary institutions, especially in channeling credit (lending) to the real sector. The major researeh question involves what the impact of the banks' recapitalization program was on the real sector in enhancing Indonesian economic recovery from the 1997-1998 crises. There are two

main issues in the research. They are banks' performance and effeetiveness of the capital injected through banks' recapitalization. This research is very important because no research has been conducted to test the effectiveness of capital injected on bank lending into the real sector. However, the cost of recapitalizing tired banks reached IDR430.43 or US$82.32 billions (IDR 8,000/ US$). This has been a great fiscal cost to succeeding Indonesian governments. Therefore, this research is expected to examine whether banks' performance after the injection of capital has influenced the banking capacity for the real sector lending. In addition, this research will be answering the question of whether government policy has aligned itself or not with the banking criteria that has been used on recapitalization program.

ACKNOWLEDGEMENTS

Thanks to Jesus Christ for His blessings. I want to express my deep gratitude to my daily supervisor, Prof. Dr. Harald Sander, Professor of Macroeconomics at MSM, Netherlands, for his unflagging encouragement, support, guidance, and brilliant comments. Many thanks go to Prof. Dr. Kami Rwegasira who was the first to support me on the DBA European-American Program and Prof. Arlyn J. Melcher, Professor of Management, College of Business and Administration at Southern Illinois University Carbondale, USA, for their assistance and guidance in the research methodology module. Many thanks also go to Prof. Eno. L. Inanga as a reader and his comments to intend in enhances the quality of thesis.

I want to thank Prof. Dr. Beatrice I. J. M. van der Heijden, MSM Professor of Organizational Behavior and Prof. Dr. Edward F. McDonough III, Professor of Human Resources Management, College of Business Administration at Northeastern University, Boston, USA, for their assistance and guidance in the behavioral science module. Many thanks go to Prof. Dr. James H. Patterson, Professor of Operations Research and Decision Technologies at Kelley School of Business, Indiana University, USA and Dr. Vincent Feltkamp, MSM Associate Professor of E-Business, for their assistance and guidance in the quantitative methods module. Many thanks also go to Prof. Dr. Siva K. Balasubramanian, Professor of Economics at Southern Illinois University, USA, and Prof. Dr. A. L. Alcorta, MSM Professor of Microeconomics, for their assistance and guidance in the economics module.

I want to thank Prof. Dr. Ronald S.J. Tuninga, Director-Dean, MSM; Prof. Fred Y. Phillips, Associate Dean, MBA and DBA/Research, and Dr. Edith L. Maes, DBA

Director, Maastricht Program, for their encouragement during this research. I am grateful to the Manager of DBA/PhD Program, Ron J. E. M. Soeren, the Librarian, Mrs. Iris Hamelers, the Manager of Student Affairs and Career Counselor, Mrs. Anna Pierson as well as the Facility Manager, Mr. A. Kranenburg, for their help and kindness.

I appreciate Rev. Daniel A. Nyarko, for tirelessly editing this proposal, my young brother Togar M. Simatupang, PhD, Assistant Professor at School of Business Management, Bandung Institute of Technology, Indonesia, Heather Montgomery, PhD, Former Fellow Research in ADB Institute. Ari N. Subagio, my classmate, and Ahmad Daryanto, Universiteit Maastricht for their suggestions and support in carrying out this proposal. I also wish to express my thanks to all the people that cannot possibly be mentioned one by one here, but who supported and contributed to this proposal. The Corporate Affairs Group of PT Bank Mandiri (Persero) Tbk, and Learning Center Group of PT Bank Mandiri (Persero) Tbk., GPIB Harapan Baru Bekasi, Pos Mission Maastricht-Holland of GMI in Immanuel Kerk, my housemates, member of PPI-Maastricht, and also my classmates for Intakes 2004 and 2005.

A special word of thanks goes to the PT Bank Mandiri (Persero) Tbk, Indonesia, which sponsored me to follow the DBA Program at MSM, Netherlands. Without their support, I would never come to Holland to follow the DBA European-American Program at MSM. Many thanks also to the 2004 Board of Directors, PT Bank Mandiri (Persero) Tbk, from the CEO & President Director, COO & Deputy Director, and all the Direetor Members. Finally and importantly, carrying out this one year more programme would have been impossible without the day and night support and help from my lovely wife, Roswati - thank you very much for everything. This proposal is dedicated to her and my children: Evan Melvern, Tiara Christina, and Axel Manuel.

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LIST OF ABBREVIATIONS

1GMC	First Generation Models of Crisis
2GMC	Second Generation Models of Crisis
3GMC	Third Generation Models of Crisis
ADB	Asian Development Bank
AMC	Assets Management Company
API	Arsitektur Perbankan Indonesia (Indonesian Banking Architecture)
BBO	Bank Beku Operasi (Frozen Bank)
BPD	Bank Pembangunan Daerah (Regional Developing Bank)
BCP	Basle Core Principles
BI	Bank Indonesia (The Central Bank of Indonesia)
BIS	Bank for International Settlements
BLBI	Bantuan Likuiditas Bank Indonesia (Bank Indonesia Liquidity Support)
BPD	Bank Pembangunan Daerah (Regional Development Bank)
BSA	Bank Support Authority
BTO	Bank Taken Over
BUR	Bank under Restructuring
CAMEL	Capital, Assets, Management, Earning, and Liquidity
CAMELS	Capital, Assets, Management, Earning, Liquidity, and Sensitivity to the Market Risk
CAR	Capital Adequate Ratio
DSUs	Deficit Spending Units
FFDCI	Federal Financial Institute Examination Council
FIs	Financial Intermediaries
FSIs	Financial Soundness Indicators
GDP	Gross Domestic Product
GNP	Gross National Product
IBRA	Indonesian Banking Restructuring Agency
IDR	Indonesian Rupiah
IMF	International Monetary Fund
KLBI	Kredit Likuiditas Bank Indonesia (Bank Indonesia Liquidity Credit)
LDR	Loan to Deposits Ratio
LLL	Legal Lending Limit
LOI	Letter of Intent
LOLR	Lender of the Last Resort
MFSS	Monetary and Financial Systems and Statistics Department
MOF	Minister of Finance
NII	Net Interest Income
NIM	Net Interest Margin
NPLs	Non-Performing Loans
OLS	Ordinary Least Square
ROA	Returu on Assets
ROE	Return on Equity
SBI	Sertifikat Bank Indonesia (Bank Indonesia Certificate)
SMEs	Small-Medium Enterprises
SSUs	Surplus Spending Units
UBPR	Uniform Bank Performance Report
WB	The World Bank

ABSTRACT

This study examines the impact of banks' recapitalization on the performance of banks on one side, and on the effectiveness of real sector lending in Indonesia, on the other. The study is based on the recapitalization bonds issued by the Indonesian government as part of the program to restructure and revitalize the Indonesian-banking sector following the economic crisis that started in 1997-1998. The government assessed the amount of non-performing loans (NPLs) of the various banks, moved it to the Indonesia Banking Restructuring Agency (IBRA), bought shares in the banks, and paid with recapitalization bonds as capital injected.

The author has identified five primary objectives of the banks recapitalization program in Indonesia. These are: (i) to increase the capital ratios of the banks (ii) to increase the performance of banks (iii) to increase lending (iv) to decreasc NPLs assets and (v) to encourage the restructuring and revitalization of the Indonesian-banking sector. The author would, empirically, use: (i) non-paramctric analysis to examine the performance of banks before and after being reeapitalized and (ii) a panel of individual bank data to estimate the effectiveness of the banks' recapitalization to the real sector lending. These would help in achieving the four-recapitalization program objectives.

The expected results would be the determination of: (1) bank categories based on the performance of the banks; (2) the effectiveness of the recapitalization program to the real sector lending, (3) the relationship between performance of banks and real sector lending after recapitalized, and (4) their implications on the economic recovery from the crises of 1997-1998.

1. INTRODUCTION

1.1 Background to the Research

In 1999, the Indonesian government decided to carry out the banks' restructuring program through national **banks' recapitalization** by issuing recapitalization bonds for 36 banks. The total value of recapitalization bonds was around IDR430.43 trillions or US$53.8 billion (IBRA, 2000). That amounted to 65.35% of the total of Indonesia's fiscal cost of the banking crisis restructuring that eventually reached IDR658.59 trillions or US$82.32 billions (51.02% GDP in 2000). This banks' recapitalization program is part of the program to restructure and revitalize the Indonesian-banking sector following the financial crisis that started in 1997-1998.

The Indonesia financial crisis is part from East Asia crises. East Asia in the late 1990s was a very dramatic crisis. Before the crisis, the World Bank in 1993 in their policy research report had referred to the growth of the East Asian economies as the "Asian Economic Miracle." But, suddenly, there occurred a currency crisis that escalated into a deep, financial crisis in 1997. This became known as the "Asian Economic Crisis."

The problems in the banking sector, in the wake of the Asian currency turmoil, typically precede a currency crisis (Kaminsky & Reinhart, 1999). While the currency crisis deepens the banking crisis thereby activating a vicious spiral, financial liberalization often precedes a banking crisis. Irvin and Vines (1999) specifically stated that the Asian financial crisis is a multiple-equilibrium model and to understand whatever happened to Asia, a new "generation third" model is needed which puts the crisis in the financial system at centre-stage. This is designed to combine insights from Krugman (1988), Dooley (1999a, 1999b) and Sachs (1995, 1996). Sander & Kleimeier

(2000, 3) have three suggestions for the third-generation model of crisis (3GMC). These are moral hazards[1] in lending through implicit government guarantees, a currency crisis as the other side of the coin of a banking crisis, and a meltdown in the real economy. The transfer problem and the balance sheet issue also share in equipping the currency and debt crises, which knocked over Asia (Krugman 1999 and Sander 1988).

In fact, the crisis that knocked over Indonesia was a good example of a 3GMC. Precisely, it was a banking crisis, which was occasioned by a currency crisis. The seemingly central policy of banks, which had a moral hazard, effect by the implicit guarantee from central bank as the lender of last resort (LOLR), had been exploited by banks to shift their risk to the central bank. This action in turn pushed the banks to take on large debts and gave loans to the various sectors, which were highly risky[2]. On the other hand, there were transfers and balance sheet problems. The behavior of big capital inflows companied by rapid capital outflows caused the crisis in the capital account[3]. The dangerous effect of capital outflows, largely uncontrolled lending (financial bubbles) and the capital account crisis was the currency mismatch (un-hedged foreign currency denominated debt). This precipitated the debt crises (i.e. credit fell dramatically)[4]. The banking crisis had a direct correlation with the monetary conditions and fiscal policies at the time. Banks' recapitalization was one of the actions government took to enhance economic recovery from the crises.

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[1] Moral hazard closely associated with the concept of adverse selection, where the moral hazard arises after the transaction occurs: The Lender runs the risk that the borrower will engage in activities that are undesirable from lender's point of view because they make it less likely that the loan will be paid back (Mishkin 2005, 174). Adverse selection mean as asymmetric information problem that occurs before the transaction occurs. For detail description, where the moral hazard occurs in related to the financial fragility: please see Silva, Louis, and Masaru. "Can Moral Hazard Explain the Asian Crises?" *ADB Institute*, Tokyo.2001.

[2] See Sabirin (2001, 3). He is a Former Governor of Bank Indonesia during 1998-2003.

[3] See, HLB Hadori & Rekan (2003, 36).

[4] See, Schneider and Tornell (2001, 883).

Whenever countries simply allowed their currencies to drop, rising import prices would threaten to produce dangerous inflation[5], and the sudden increase in the domestic currency value of debts might push the many potentially viable banks and companies into bankruptcy (Krugman and Obstfeld 2003, 691). The main causes of this bankruptcy were liquidity and insolvency due to credit failure, fraud, and liquidity mismatches (Sabirin 2001, 3). While the stagflation and instability were taking place in the Indonesian economy, especially in the period of 1998/99, the Non Performing Loans (NPLs) reached 58.7% from 19.8% in 1997/98 and 9.3% in 1996/97 (BI Annual Report 1998/97, 99).

McLeod (cited in Jackson 1999, 209-240) explained that the crisis reflected the failure in observing several principles such as higher capital inflows (in response to attractive domestic investment opportunities), which caused the depreciation of the exchange value, despite the government's concentration on efforts to overcome the impact of negative exports and market intervention. Kaminsky and Reinhart (1999, 491) found that banking and currency crises are closely linked in the aftermath of financial liberalization, with banking crisis, in general, beginning before the currency collapse. Nevertheless, the way was open also for the possibility of the currency crisis being a by-product of the impact of government budget deficits (Krugman 1997). Rose (2003, 544) wrote that "when government deficits are large, substantial amounts of new debt securities have to be issued" and "the impact of these massive borrowings on the money and capital markets and the economy depends, in part, on the source of borrowed funds".

[5] Inflation in Indonesia tipped its top in the year 1998 and reached 60.7%. This inflation, more precisely told, was the effect of cost push-inflation, and was especially pushed by foreign exchange rates which were rocketing up. Tarmidi (1998, 17) called this 'foreign exchange induced inflation'.

As one of the strategie actions taken by the Indonesian government in enhancing economic recovery from the crises, the Indonesian Bank Restructuring Agency (IBRA) was established on January 27, 1998. The government formed the IBRA to stabilize the national banking system. Undeniably, with 16 banks closed, this would bring systematic risk directly to Indonesia banking system. Specifically, it was expected to trigger the contraction effeet in the short term, which in turn would cause the happening of fund-migration of closed bank customers to other banks, or even out of the country. Although short term, if fund-migration happened on a large scale, it could be ascertained that it would depress the national payment systems, that is, in the form of capital outflows. In the end, the trust the society has in the Indonesian banking system would diminish progressively.

Thus, the policy of banks' recapitalization brought positive implications for many sectors, especially its impact on the banking intermediation function such as reforming the real sector as an engine of growth. However, arising out of the program of recapitalization was the problem that the banks could not directly run their function as intermediary institutions, especially in channeling credit to the real sector. In addition, basically, the banks would remain to face the internal issues of selling reeapitalization bonds and extend giving of credit to the real sector after the recapitalization program. The condition of the banks depended then on how big or small their Capital Adequacy Ratios (CAR) was, whether they could give credit or not, as well as how big the rate of interest acceptable to the real sector was.

After the government released the fiscal cost of the banking crisis restructuring, in reality, the speed at which the recovery of Indonesia economy took place was very tardy. That was not all. The level of cost of restructuring tired banks was 50% of GDP

to 75% of the portfolio of Banking Non Performing Loans (NPLs). Compared to other countries like Korea, the cost reached 60% GDP to 50% portfolio of Banking NPLs, Malaysia had 45% GDP to 45% portfolio of Banking NPLs, and Thailand was 45% of GDP to 53% portfolio of Banking NPLs (Hill 1999, 24).

What we learn from the above explanation (and which had been stated earlier) is that the cost of recapitalizing tired banks reached IDR430.43trillion (US$53.8 billion). The expense of recapitalization equal to the figure above was an expense directly borne by the government from the budget. Since the government did not have fiscal cash or money to support directly the expenses, the government decided to publish a governmental obligation with the aim of recapitalizing some banks as part of the restructuring program in order to bail them out from the effects of the economic crises of 1997-1998.

1.2 Problem Statement

Interventions in banking operations are often an integral element of government's program for addressing a systemic banking crisis (Enoch 2000, 1). From the advent of the Indonesian crisis, since November 1, 1997, the government has conducted interventions in the form of closing some banks, takeovers, mega-mergers of some state-owned banks, liquidations, and finally issuing the banks' reeapitalization program that started on March 13, 1999.

The main goal of the banks' recapitalization program was to strengthen and improve banking capital, so that they could run their functions better and play their role as the engines of economic growth. With the improvement of their capitals, it is expected that the banks could become facilitators of an efficient national payment system; could

support the growth of the real sector whlch in turn could push the growth of the economy (Suta & Musa 2003, 75; Enoch, Garcia and Sundarajan 2001, 58).

The banks' recapitalization program was based on the results of the due diligence undertaken by the Government and which categorized banks into three groups according to their Capital Adequacy Ratio (CAR)[6]. Unfortunately, the performance of the Indonesian banking system was poor with many having their CARs to be negative. In 1998 and 1999, this was equal to -15.7% and -8.12% respectively. If in the banking system a bank shows a negative CAR, it means that it cannot give credit to any third party. Rather, it must concentrate more on how to maintain its liquldity. Therefore, banks that have been recapitalized by government cannot directly conduct their functions as full intermediary institutions; they could only be allowed to function as outlets for payments of transactions and as depositories. The problems with the banking recapitalization program (which was embarked upon to help the real sector enhanee the Indonesian economic reeovery from the crisis) were that:

1. Banks recapitalized by the government had not yet reached their peak performance as before the crises;
2. The low level of LDR (Loan to Deposits Ratio)[7] as reflected by the banking system, which stlll had not yet fully recovered its function, made lt impossible to

[6] On 13 March 1999, the Indonesian government announced the results of due diligence. Banks were then categorized by their capital adequacy ratio (CARs). There were: 119 solvent "A" banks with CARs of 4% or ahove and could continue their intermediation function without government support but they had to preparc business plans in order to iinprove their performance; 24 insolvent "B" banks with CARs between 4% and -25%; and 51 highly insolvent "C" banks with CARs of less than -25%. The B and C banks were required to prepare and submit business plans to Bank Indonesia as part of the joint recapitalization programme that was determined by a Committee made up of Bank of Indonesia, IBRA, and the Ministry of Finance (MOF).

[7] Post-crisis (Septembcr 1997) growth of loans by LDR (Loan to Deposits Ratio) drastically declined from **83.20%** in 1997/1998 to **36.0%** in 1999. The LDR grew very slowly from 1999, i.e. 37.3% in 2000, 38.0% in 2001, 43.2% in 2002, and 48.5% in 2003 (BI Annual Report).

release financing to the real sector after the government undertook the banks' recapitalization program[8] in 1999 and 2000.

1.3 Research Questions

The major research question is "What was the impact of the banks' recapitalization on banks' performance and real sector lending in enhancing Indonesia's economic recovery from the 1997-1998 crises?"

The minor research questions consist of the following:

1. What was the impact of the recapitalization program on banks' performance for those banks, which received recapitalization bonds?
2. How effective was the capital given to the different bank groups to that was recapitalized?
3. What was the relationship between performance of banks' and real sector lending after recapitalized?
4. What were the implications the banks performance and real seetor lending after recapitalized to economic recovery?

1.4 Research Objectives

The researcher will use the facts relating to the banks recapitalization to study its impact on the banks performance and real sector lending in the context of the Indonesian economic recovery from the crisis of 1997-1998. The researcher aims at doing an empirical study to investigate what contribution of banks' recapitalization to

[8] The Banks were recapitalized in 4 phases, i.e. 7 Private Banks on April 21, 1999; 12 Regional Development Banks on May 28, 1999; 4 State-Owned Banks from March – July 2000; and 13 Banks Taken Over (BTOs) from March – June 2000.

the Indonesian economic recovery and to test whether it can be considered to have been successful or not.

The quantitative empirical study is aimed at looking for what factors affected the efficacy or failure of the banks' recapitalization program. Data from the research would be used to assess the impact of the recapitalization program. The quantitatively derived results would be analyzed to give meaning to the various effects of the banks' recapitalization on bank performance and lending to the real sector and the economy as a whole.

1.5 Significance of the Proposed Study

There have been many previous studies conducted on the character of macro-level examination pursuant to inter-states data. Enoch, Garcia, and Sundarajan (2001) in their study of "Recapitalizing Banks with Public Funds" focused specially on *'operational and technical issues that relate to two items: the granting of assistance through capital injections and asset rehabilitation to facilitate the continued operation of banks that are to be kept open'*. Michael Andrews (2003) indicated that *'banks with insufficient interest income, or risk exposure imbedded in their holdings of recapitalization bonds, are likely to suffer losses leading to the need for subsequent intervention and a renewed attempt at restructuring'*.

Another study regarding banks recapitalization conducted by Diamond (2001) focused on *'the future effects of bank recapitalization on banks and their existing borrowers'*. In Japan, Montgomery and Shimizutani (2004) conducted a study on the effectiveness of bank recapitalization policies, using OLS (Ordinary Least Square) on a panel of

international and domestic banks. They concluded that '*the capital injections do not appear to affect lending to SMEs for either bank types, but for international banks, the receipt of injected capital seems to relax the constraint that capitalization makes on overall loan growth*'.

This researcher has found that these studies have focused on other problems associated with banks recapitalization, but the impact of the program on banks performance in relation to real sector lending has not yet been examine directly. This means that the various policy recommendations cannot touch directly the important aspects of individual states in the region and their entire local payload problems.

Based on the focus of the earlier studies as outlined above, this proposed study is important for several reasons. First, for understanding the relationship between the injected capitals (aimed at improving the CARs of the recipient banks) as models of the banks' recapitalization and banks' performance. Secondly, the study will examine the effectiveness of banks' recapitalization policies in Indonesia. Thirdly, the study is aimed at understanding the contribution of the banks' recapitalization to achieving economic recovery, specifically, in the real sector lending of the Indonesian economy.

1.6 Methodology

In the light of our research objectives, this study has two-perspective focuses, which are *banks performance* and *real sector lending*. CAMELS[9] indicators will be use as a measurement of the banks' performance for all banks that received the injected

[9] CAMELS stand for capital, assets quality, management, earnings, liquidity, and sensitivity to the market risk.

recapitalization bonds. The method of data analysis will be the Wilcolxon Signed Ranks Test and Manova Test. These will be used to examine the hypotheses of banks' performance before and after receiving the capital injection through the banks' recapitalization.

The Panel Data will be use for examine the effectiveness of the impact of banks recapitalization to the real sector lending. The data sources of this examination are Bank Balance Sheets and Income Statements for Fiscal Years 1994 – 2004. In this step, the OLS (ordinary least square) regression method is used.

1.7 Delimitations and Limitations of the Stndy

There are two main delimitations of this research study:

1. The envisaged research requires data for a period of four years before the crisis and seven years after the crisis, precisely from 1994-2004. This period is recognized as being relevant for data collection, though the source data will be limited to the 36 banks that received recapitalization bonds. Banking liberalization in Indonesia started since 1 January 1983 (Simatupang 2004, 4) but because of the dearth of data, the researcher decided that the study be conducted using the available data. The researcher discovered that data is availabie from 1994 until 2004 on the bases of semester reports from each bank.
2. The independent variable was assumed as the object of government policy to be empirically tested for its efficacy level.

On the other hand, the limitations of the study stem from the fact that the operating periods of the recapitalization bonds were not uniform. The time of execution of the

banks recapitalization program was divided into four phases or rounds with differences in the time for each group of banks to receive the injected bonds. The other limitation is that a few years into the recapitalization program, precisely in 30 June 2000, the Government (BI Annual Report 2000, 114) either merged eight banks taken over (BTO) to Bank Danamon. So that, finally, not all the 36 banks initially participated in the recapitalization process completed it. In this research, therefore, only the post-merger recapitalized banks would be considered. In the end, 27 banks would be included in the analysis of the recapitalization program.

1.8 Research Strnctnre

The research structure is dividing into six chapters as follows:

Chapter	Research Details/Steps
1. Introduction	Background Problem Statement Research Questions Research Objectives Significance of the Proposed Study Methodology Delimitations and Limitations of the Study Research Structure Time Schedule
2. Financial and Banking Crisis, the Real Economy, Bank Performance, and Recapitalization: A Review of the Literature	Financial Crisis to Banking Crisis • Theoretical Model of Crisis • The Crisis Transmission Mechanism • The Twin Crises and Banking Matters Banking and the Real Economy • Banking as Financial Intermediaries • The Lending Channel • Credit Matters and Real Economy Banking Performance Measurement • Banking Indicators Measurement • Bank Capital Structure • Impact of Capital Adequacy Requirement • Banking Architecture Banking Recapitalization Summary of Literature Review on Banks Recapitalization
3. The Evolution of The Indonesian Banking: From the Crisis to the Banking Restructuring and Recapitalization	Macroeconomic Background and Genesis of the Crisis • Macroeconomic background • Genesis of the Crisis

	Indonesian Banking Evolution • Period I (167-1973) • Period II (1973-1983) • Period III (1983-1988) • Period IV (1988-August 1997) • Period V (August 1997-September 2003) • Period VI The Rehabilitation Post-Crisis Period (October 2003-Present) Banking Restructuring • Banking Restructuring Program • Indonesian Banks Recapitalization Program Bank Performance Conclusion of Chapter
4. Conceptual Framework, Research Design, and Methodology	Conceptual Framework • Banking Performance Measurement Used • Effectiveness of Recapitalization Measurement Used Designing Research Methodology and Research Hypotheses • Methodology • Research Hypotheses Conclusion of Chapter
5. Summary Findings and Conclusion for a Future Research	Summary Findings Conclusion for a Future Research

1.9 Time Schedule

Time Schedule	Tasks
March 2005	Course work: Quantitative Analysis
	Literature review and research proposal
March 2005 - April 2005	Data processing & hypotheses testing
April – July 2005	Interpreting results and preliminary draft
July 2005 – 21 November 2005	Writing, revision and final submission
November 25, 2005	Proposal defense for the M.Phil.

2. FINANCIAL CRISIS TO BANKING CRISIS, THE REAL ECONOMY, BANKING PERFORMANCE AND RECAPITALIZATION: A REVIEW OF THE LITERATURE

In this chapter, we review the relevant literature to explain systematically what the crisis was. We will evaluate the kind of impact the crisis had on the real economy and explain what role banking played in the crisis, define the concept of banking architecture and the nature of the Indonesian banking architecture after the crisis.

The Oxford Dictionary for Business World (1993, 193) has divided articulation of crisis into two terms. They are the 'time of danger or great difficulty' and 'decisive moment turning point'. In Marxian economics, "crisis" is a phase of trade cycle, which is the upper turning when an economy turns down from a boom to a recession (see Dictionary of Economics 1992, 103). To soften the word "crisis" or "panic," President Herbert Hoover of the USA, around the year 1930, used term *depression*, interpreted as an "endless period with very high unemployment levels during which companies operate under their capacities." However, because the term 'depression' gave ugly connotations, it has now been replaced by the term 'reeession'. This time, recession is defined as the degradation of GNP within at least two quarters of a year (see Samuelson & Nordhaus 1985).

Generally, crisis in economic terms is very often hands in glove in its bearing with a banking crisis. To comprehend furthermore how this matter took place, we will theoretically look at the crisis model and crisis mechanism of what happened, its bearings with the real economy, and its impact as it is hand in gloves with the banking

world. Theoretically, the structural problems of a banking system are determined by how its banking architecture is managed by the central bank.

2.1 Financial Crisis to Banking Crises

In the 1970s, there were 7 countries which adopted financial liberalization. These were Chile, Mexico, and Spain in 1974, Brazil in 1975, Uruguay in 1976, Argentina in 1977, and Malaysia in 1978 (Kaminsky & Reinhart 1999, 478). Indonesia started to liberate her financial system in 1983. From the empirical data presented by Kaminsky and Reinhart, the banking crises that occurred were accompanied by balance of payments crises in 20 countries which had liberalized their financial systems. In fact, financial liberalization often precedes the financial crisis that leads to the banking crisis or vice versa. This is often seen as the 'twin crisis'.

Financial crisis is defined as a collapse in the price of financial obligations, which may lead to a collapse in the economy (Oxford Dictionary of Finance & Banking 2005, 153). To comprehend further about the occurrence of the financial crisis and its bearing with other economic crises, a discussion of the type of crisis, the crisis transmission mechanism, and the 'twin crisis' of banking, is an important perspective.

2.1.1 Theoretical Model of Crisis

In economic history worldwide, there exists literature on models of some of the worst crises that have occurred. The crises occurred in certain countries, in different economic regions, in a particular sequence within an economic region or occurred at

the same time. Even from recent literature, we find that a crisis that happened in one region can generate another crisis for other countries in different economic regions[10].

There are three formal models of crisis. They are the first generation model of crisis, second-generation model of crisis, and third generation model of crisis. Each model of crisis has separate characteristics, but each model relates with one model or with the other model. Understanding the crisis models will very much assist in understanding how related the chain of economic crisis, financial crisis, banking crisis and the other forms of economic crisis which almost knocked over the entire hemisphere were.

2.1.1.1 First Generation Models of Crisis

The first generation model of the crisis (1GMC) was for the first time demonstrated by Krugman (1977) based on the canonical crisis model derived from the work done by Salant (1970), which was concerned with the pitfalls of schemes to stabilize commodity prices. Later, Flood and Garber (1984a) elucidated the models. Krugman's model was on balance-of-payments crisis. He argued that in recent crises the continuous deterioration in the economic fundamentals becomes inconsistent with the attempts to fix the exchange rate. According to Krugman, and Flood & Garber, intrinsically this crisis is the product of budget deficits. In Krugman's model, the source of the problems is the excessive creation of domestic credit to finance fiscal deficits, which the authorities cannot support and finally results in a weak banking system.

[10] See Van Rijckeghem and Weder (1999) in Sander & Kleimeier (2000, 2). Here, they give an account of Mexican Crisis, Asian Crisis, and Russian Crisis that were affeeting in the crisis period across on the economic region.

Where the government has been unable to sustain its expenditure (fiscal expenditure), the matter is made worse again with the existence of excessively expansionary fiscal policy which is financed by issuing domestic credit (Eichengreen, Rose, and Wyplosz 1994, 6). Thereby government is forced to use the foreign exchange reserves it owns. The effect is the dwindling of its assets of domestic currency seriously and a fall in foreign exchange reserves becomes critical. By cleaning the foreign reserves, there will be no other way out of the situation than to let the exchange rates float. This situation, which is aggravated by the existence of currency attack, mostly affects the investor who then makes efforts to obvlate larger losses.

Based on the Krugman model, Flood and Garber (1984a) elaborated the uncertainty about the rate of domestic credit creation. Unfortunately, in their discrete-time formulation, they did not anticipate the impact of increase in domestic credit. This is one of the issues that cause the shadow exchange rate to exceed the pegged data temporarily (see Eichengreen, Rose, and Wyplosz 1994, 8). 1GMC predicts expansionary fiscal policies and/or rapid growth of money and credit, increasingly overvalued exchange rates, and steady drain of reserves (ibid, 10). Nevertheless, 1GMC does not predict any particular shift in the stance of monetary and fiscal policy following the attack.

The effect of all these is that currency speculators come attacking. The recent crisis of currency in Indonesia came from speculating attacks and at the same time, the budget deficits resulting from balance-of-payment problems. These conditions imply that 1GMC have heavy implications for the behavior of macroeconomic and financial variables. In addition, the 1GMC account for the institutional framework of

government that has pursued inconsistent policies. However, the government gets trapped and unavoidably has to pay for the price or outcome of inconsistent policies.

2.1.1.2 Seeond Generation Models of Crisis

The second-generation model of the crisis (2GMC) was first formulated by Flood & Garber (1984b) and later by Obstfeld (1986). In the 2GMC, the crisis is thought to come from the possibility of self-fulfilling speculative attacks. This model is built on two assumptions. These are: (1) that the government is an active agent that maximizes an objective function, and (2) that a circular process exists, leading to a multiple equilibrium (Krugman 1997). Both assumptions show the existence of interaction between government behaviors with private sector behaviors.

There are new aspect which features of this model, that are there equilibria multiple, they have differentiate between each equilibria occur. Here, the economy can jump out from the one equilibrium to the new equilibrium, likes from *no attack equilibrium* to *the attack equilibrium* witch triggered by a sudden and unpredictable shift in market expectation. Logically, it can be said that the impact which emerge effect from jumping movement of equilibrium that will relative, depend on big or small changes that happened.

In 2GMC, the economic fundamentals play a key role in determining when crisis may occur (Esquivel & Larrain B. 1998, 5) and focusing on a self-fulfilling crisis mechanism (Sander & Kleimeier 2000, 2). The sources of the problem come from the result of conflict between a fixed exchange rate and the desire to pursue a more expansionary monetary policy. The other problem is the possibility that there will be a sudden attack by speculators.

When an attack is big, it generates larger ones or convulsions. This matter, of course, will trigger government to alter the policy on exchange rates. Krugman (1999, 2) elaborated that when investors begin to suspect that the government will choose to let the parity go, the resulting pressure on interest rates can itself push the government over the edge. Although government can specify the policy on exchange rates and self-fulfilling mechanism able to validate public expectations, it is important to note that resistance to speculation will generate a big expense for the government.

In contrast, it is suggested that rational self-fulfilling attacks should be followed by shift in monetary and fiscal policies in a more expansionary direction (Eichengreen, Rose, and Wyplosz 1994, 11). The main message of the 2GMC is that crises can be the unpredictable outcome of a change in market expectations. Thus, these self-validating crises can occur despite sound macroeconomic fundamentals[11], that timing is arbitrary, and that there are possibilities for multiple equilibria (Sander & Kleimeier 2000, 2).

2.1.1.3 Third Generation Model of Crisis

Irwin & Vines (1999, 1) mentioned that, to understand whatever happened to Asia, a new "third generation" model of the crisis is needed, which puts the crisis in the financial system at centre-stage. In reality, theoretically, the 1GMC and 2GMC do not yet explain how the crisis happened in East Asia, particularly; in Indonesia and Korea, which were involved in the crises but had no serious fiscal deficits and possessed quite well fundamental conditions[12]. To be able to explain the East Asian crisis, requires

[11] Esquivel & Larrain B. (1998, 5) also suggested that crises are not affected by the position of the fundamentals, instead they may simply occur as a consequence of pure speculation against the currency.
[12] See IEO-IMF (2003, 11-12) on their Evaluation Report on The IMF and Recent Capital Account Crises: Indonesia, Korea, Brazil.

that some models be joined together to become one, the so-called third generation model of the crisis (3GMC). The 3GMC was designed to combine insights from Krugman (1998), Dooley (1999a, 1999b), and Sachs (1995, 1996) by Irwin & Vines (1999).

The most important finding from the crisis in East Asia was the happening of the twin problems of the occurrence of a currency crisis in big percentages of devaluation that progressively deepened the banking crisis[13]. Thus, for this reason, most problems of the 3GMC focus on how the banking sector might cause a currency crisis. As Krugman (1998, 3) pointed out, the problem began with the financial intermediaries, namely, the institutions whose liabilities were perceived as having an implicit government guarantee, but were essentially unregulated and therefore subject to severe moral hazard problems. Further, how does currency crises cause the large banks to fail as consequence of alliance of large foreign currency[14]?

In response to the various problems that have been highlighted above, Irvin & Vines (1999) united the opinions of Krugman, Dooley, and Sachs into a model which they named as the multiple-equilibrium model of the Asian financial crisis. They elaborated that the economics of Krugman-style of over-investment were caused by ugly and weak financial regulations by government guarantees. On the other hand, the version of Dooley implied that the government has a limited willingness to pay up on its guarantees if things go bad and so the guarantees may lack credibility. Models have long-run balance with excess of investments. However, in the short-run, where the capital stock is fixed, it also will have multiple equilibria. If lenders assume that a loan

[13] Kaminsky & Reinhart (1999) traced that crises occur as the economy enter a recession, following a prolonged boom in economic activity that was fuelled by credit, capital inflows, and accompanied by an overvalued currency.

[14] Flood & Marion (2000, 24) conclude that bank and currency collapses are related but they are not the same thing.

has low risks, they will allow it to continue. Nevertheless, if they expect that the high risk lending and expenses for guarantees will rise, they will make lending high-risk and the risk premium self-justifying. This has been argued by Irvin & Vines in their use of the model to study panic and collapse, as popularized by Sachs in discussions of the Asian crisis. In addition, the 3GMC based on balanced analysis was developed to understand how capital account movements drive currency, and financial crisis[15], to cause banking crisis and visa versa.

2.1.2 The Crisis Transmission Mechanism

In theory, Ishihara (2005, 16) has identified that there are 42 relationships between seven different types of crises if the directional causalities are taken into account. All of these relationships between crisis types are described as the crises transmission mechanism. This is shown in Figure 2.1.

Few studies have generally handled the five types of crisis together, i.e. banking, balance of payments, currency, debt, and financial crises. In the Ishihara model, other types of crisis are added. These are growth rate crisis, and banking crisis divided into liquidity type banking and solvency type banking (Ishihara 2005, 7).

The crises transmission mechanism for BOP (Balance of Payments) crises to financial crises and BOP crises to currency crises based on Krugman (1979), Flood & Garber (1984), and Krugman & Obstfeld (2003, 502-4). They summarized that an impending change in the exchange rate gives rise to a balance of payments (BOP) crisis, and the reserves loss accompanying a devaluation scare is often labeled capital flight

[15] Based on Allen, Rosenberg, Keller, Setser, and Roubini (2002, 10). More explanations that are elaborate have been given by Dornbusch (2001) in his paper: "A Primer on Emerging Market Crises."

(financial crises). This is because the associated debit in the balance of payments accounts is a private capital outflow. On the other hand, Kaminsky & Reinhart (1999, 2) stated that the loss of reserves will lead to a credit crunch which, in turn, will increase bankruptcies and financial crises.

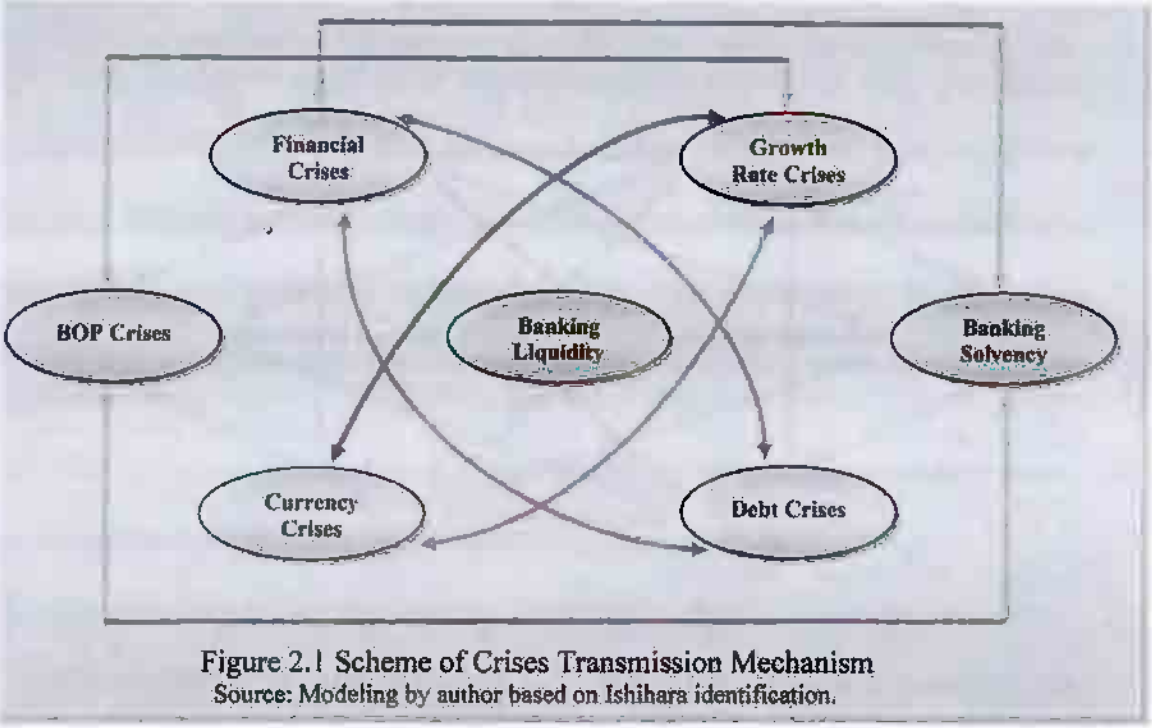

Figure 2.1 Scheme of Crises Transmission Mechanism
Source: Modeling by author based on Ishihara identification.

From the banking crisis to the currency crisis, according to Kaufman (2000, 13), the banking problems may also ignite currency problems, particularly in smaller countries, caused by open economic on fixed or semi-fixed exchange rate standards. From a currency crisis to banking crisis, on the other hand, Kaminsky & Reinhart (1999, 474) find that the peak of the banking crisis most often comes after the currency crash, suggesting that existing problems were aggravated or new ones created by the high interest rates required to defend the exchange-rate peg or the foreign-exchange exposure of banks. Mishkin (1996) in Kaminsky and Reinhart (1999, 475) asserted that If a devaluation occurs, the position of banks could be weakened further if a large

share of their liabilities is denominated in foreign currency. Furthermore, Miller (1996) expressed that a speculative attack on a currency can lead to a banking crisis if deposit money is used to speculate in the foreign exchange market and banks are loomed up. In such a state, the liquidities grow worse and the crisis shifts up in its solvability.

The banking crisis to financial crisis scenario can be analyzed through the work of Demirgüç-Kunt & Detragiache (1997, 2). They argued that the banking crisis may also jeopardize the functioning of the payments system and, by undermining confidence in domestic financial institutions, they may cause a decline in domestic savings or large-scale capital outflows. On the contrary, from financial crisis to banking crisis, since the boom is usually financed by a surge in bank credit, as banks borrow abroad, when capital inflows become outflows and assets market crash, the banking system caves in (Kaminsky & Reinhart 1999, 475).

From the banking crisis to growth rate crisis, Demirgüç-Kunt & Detragiache (1997, 19) asserted that the banking crisis disrupts the flow of credit to households and enterprises, reducing investment and consumption and possibly forcing viable firms into bankruptcy. In contrast, low GDP growth is associated with increased risk to the banking sector (ibid, 19).

The financial crisis to growth crisis which demonstrates capital flight, has been shown to have caused an erosion of the tax base and a reduction in domestic investments (Kaminsky 1999, 7). On the other hand, as capital flight leads to the build up of gross foreign debt, it fuels a currency crisis as foreign investors become doubtful about the ability and the will of the emerging economy to pay back (ibid).

As regards the debt crisis to the growth rate the crisis mechanism, the difficulties in rolling over short-term debt during currency crisis could squeeze the liquidity available within the economy and shrink the level of economic activities. In the currency crisis to debt crises, Kaufman (2000, 3) argued that the currency crisis characterized by a sharp depreciation in exchange rate is likely to increase the burden of debt denominated in foreign currency. The crisis could squeeze the liquidity available within the economy and shrink the level of economic aetivities.

Based on research concluded by Ishihara (2005, 23) on the transmission mechanisms, tests were conducted for five Asian countries (i.e. Indonesia, Korea, Malaysia, the Philippines, and Thailand)[16]. Five main findings emerged. These are that:

1. The East Asian countries have higher number of positive relationships between the crisis types than in other countries;
2. The relationship between liquidity type banking crises and currency crises was positive in eleven countries out of 15 followed by the relationship between currency crises and growth rate crises. The results suggest that currency crises tend to be associated with liquidity type banking crises and growth rate crises;
3. Granger causality test for the five Asian countries found that currency crises tended to trigger other types of crises, and the bidirectional relationships were rarely observed.

Mishkin (1999, 16-17) affirmed that there were two special issues which led to the crisis in East Asia (and in Mexico also). These were the debt contracts and the denomination in foreign currencies. The effects of debt contracts were generated by

[16] The relationships and transmission mechanism are analyzed based on correlation coefficients for all 15 counties by Granger Causality test and the sample period is Q1 1980-Q4 2002.

three mechanisms. The first mechanism was the direct effect of currency devaluation on the balance sheet of firms. The second mechanism was linking the financial crisis and the currency crisis that arose and caused by the devaluation of the domestic currency. This led to further deterioration in the balance sheets of the banking sector. In addition, the third mechanism was linking the currency crises in emerging markets, where the devaluations led to higher inflation in the region. These explanations were accepted by Lindgren et al. (1999, 1). These writers submitted that the origins of the crisis came from the financial and corporate sector weaknesses that combined with macroeconomic vulnerabilities to spark the crisis. According to Krugman and Obstfeld (2003, 697-698), a large part of what made the Asian crisis so devastating was that it was not purely a currency crisis, but rather a currency crisis inextricably mixed with a banking and a financial crisis.

2.1.3 The Twin Crises and Banking Matters

The banking crises in Asian countries were strongly associated with an appreciation followed by a sharp depreciation in the real effective exchange rate and a parallel movement in the gross foreign liabilities of the banking sector (Hardy and Pazarbaşloğlu 1999, 256). Kaminsky and Reinhart (1999, 474) found that the peak of the banking crisis most often comes after the currency crash, and the collapse of the currency deepens the banking crisis, activating a vicious spiral. When they compared the episodes in which currency and banking crises occurred jointly (the twin crises), they found that the economic fundamentals tended to be worse, the economies were considerably frailer, and the twin crises were far more severe.

A banking crisis that precedes a currency crisis usually becomes a systemic crisis in the banking world. To identify the systemic crisis episodes, previously, Demergüç-Kunt and Detragiache (1997, 16) used the multivariate logit analysis to predict the likelihood of a banking crisis. They argued that for systemic crisis episodes, at least there must be one condition, which must be fulfilled out of four conditions. These are that:

1. The ratio of non performing assets to total assets in the banking system exceeds 10%;
2. The cost of rescue operation is at least 2% of GDP;
3. Banking sector problems result in large scale nationalization of banks;
4. Extensive bank runs take place or the government in response to the crisis enacts emergency measures such as deposit freezes, prolonged bank holidays, or generalized deposit guarantees.

Based on the four conditions above, it is easy to see the emergence of a banking crisis and to differentiate the banking crisis as individually or as systemic crisis. Meanwhile, Hardy and Pazarbaşioğlu (1999, 247-8) affirmed that banking sector difficulties might also differ greatly in severity: some may be categorized as ***severe distress*** and others as ***full-blown crises***. The severe distress recognized that banking sector difficulties might be severe without reaching the level of a crisis (Demergüç-Kunt and Detragiache, 1997), and more domestic in origin and effect, such as especially rapid credit expansion and growth in consumption, and are associated with rising domestic real interest rates (Hardy & Pazarbaşioğlu 1998, 28). In contrast, full-blown banking crises are shown to be associated more with external developments and constraints, such as heavy reliance on external funds that seems to magnify the impact of a

negative shock to the financial system, and it may contribute to foreign exchange market turbulence (ibid).

Furthermore, Demergüç-Kunt and Detragiache (1997, 2000), Kaminsky and Reinhart (1999), and Demergüç-Kunt, Detragiache, and Gupta (2000) have studied and identified banking crises with the operational definitions based on liability, assets, and government assistance. Caprio and Klingebiel (1996) studied the banking crisis with operational definition based on capital. Hoggarth, Reis, and Saporta (2002) have also studied the banking crisis with operational definition based on liability, capital, and government assistance. With respect to Ishihara (2005, 3), the liability approach focuses on the liability side of the bank's balance sheet. The essence of this approach is the incidence of bank runs. The capital account approach focuses on the capital account of the balance sheet. Moreover, the government assistance approach identifies banking crises as at least one of the policies such as (i) large-scale nationalizations of banks, (ii) deposit freezing, (iii) bank closure, and (iv) bank recapitalization. Therefore, the actual banking crisis identification depends on which approach is used (ibid).

Meanwhile, Hardy and Pazarbaşioğlu (1999, 257) suggest that banking distress is associated with a largely contemporaneous fall in real GDP growth, boom-bust cycles in inflation, credit expansion, and capital inflows; rising real interest rates and declining incremental capital output ratio; a sharp decline in the real exchange rate; and adverse trade shock. Kaminsky (1999, 14) affirmed that two types of events identified the beginning of a banking crisis:

1. Bank runs can cause the closure, merging, or takeover by the public sector of one or more financial institutions; and

2. If there are no runs, the closure, merging, takeover, or large-scale government assistance program of an important financial institution.

In addition to these events, Kaminsky (1999) has added those that are often not seen as systemic at the time and thus are not seen as heralding a crisis: that the banking crisis event, depending on the difficulties in the banking industry, (the equivalent of speculative attacks), occurs sometime after the events that mark the beginning of the crisis. Therefore, the crisis occurs as a reflection of economic recession, often preceded by economic activity which is booming and which culminates in high credit or lending, and capital inflows that are accompanied by an over-valued currency (ibid; Goldfajn & Valdés 1997[17]).

The banking crisis was defined by Demergüç-Kunt, Detragiache, and Gupta (2000, 4) as a period in which significant segments of the banking system become *illiquid* or *insolvent*. The banking crisis started as a liquidity problem. When the liquidity crisis could not be overcome, the bank would experience solvency crisis and later on face bankruptcy. Illiquidity is the current and potential risk to earnings and the market value of stockholders' equity that a bank cannot meet payments or clearing obligations in a timely and cost-effective manner (Koch & MacDonald 2000, 124). Further, insolvency is operationally a situation where a failed bank's cash inflow from debt service payments, new borrowings, and asset sales are insufficient to meet mandatory cash outflows due to operating expenses, deposit withdrawals, and maturing debt obligations (ibid, 128). This matter causes the banking crisis always to be divided into two: illiquidity and insolvency crises.

[17] Their paper focuses on the interaction of liquidity creation by financial intermediaries with capital flows and exchange rate collapses. They found that in the intermediaries' role of transforming maturities is show to result in large movements of capital and a higher probability of crisis.

If a banking crisis occurs, it is an indication of illiquidity and insolvency. These are serious problems for any bank. They are referred to as '**banking matters**', and they herald the onset of bankruptey. In banking matters, the problem of iliiquidity and insolvency imply that the bank cannot conduct its functions as an intermediary financiai institution. As a result, tbe reai sector which is fragile must be supported by many doses of credits. The corporate entity then falls into complete disarray and experiences the domino effect on its balance sheet. It also gnaws at the capital account. Moreover, the real sector is unable to repay its credits to the banks as a result of the high interest rates. Again, any company which uses many imported components will be dragged into bankruptcy because of its inability to pay resuiting from the effects of the currency crisis. Thus, we make the proposition that a banking crisis directly and negatively Influences the growth of the economy as a whoie since there is little or no supply of credlt to the real sector (compare with Stiglitz & Greenwald 2003, 137-148).

2.2 Banking and the Real Economy

Economlc systems have basic functions, which are to allocate scarce resources-land, labor, management skill, and capital - to produee the goods and services needed by society (Rose 2003, 3). Based on macroeconomic perspectives, all economic units can be classified into households, business firms, and governments (Kidwell, Peterson, and Blackwell 1997, 29). Each economic unit, generally, must operate within a budget constraint imposed by its total income and expenditures for a period. In comprehending the real economy, the relationship between economics and money can be made by premise of how the circular flow of Income and expenditure work widely.

Thls relationship can be seen from the basic Keynesian[18] approach, which tends to the determination of the national income. Truly, many circles of economists do not have the same opinion about classical economics, but utillze it to glve understanding to how the circular flow of national income and expenditure looked in reality; hence, the Keynesian approach can be used to explain the real economics model. Figure 2.2 provides a more detailed version of the circular flow of aggregate income and expenditures.

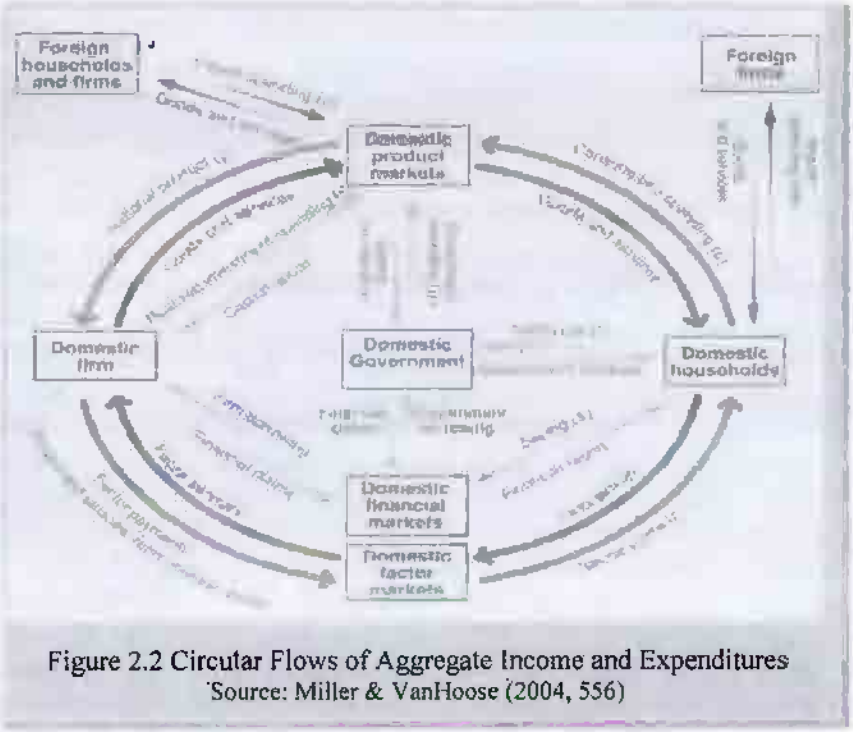

Figure 2.2 Circular Flows of Aggregate Income and Expenditures
Source: Miller & VanHoose (2004, 556)

Based on the circular flow in Figure 2.2, there are key relationships implied by the circular flow of income and expenditures. Firstly, the Income Identity segment identifies domestic households' allocation of real income to domestic consumption, import spending, savings, and taxes. Secondly, the product identity side identifies the

[18] The British Economist, John Maynard Keynes, proposed a prominent role for fluctuations in business investment as a factor in economic cycles. He formulated the theory during the Great Depression in the 1930s, and he published a book with the title "The General Theory of Employment, Interest, and Money" in 1936. Keynes assigned a rather different role to monetary policy than is played in classical economics. For detailed discussion, please see Keynes, John Maynard (1964): The General Theory of Employment, Interest, and Money, New York: Harcourt Brace Jovanovich.

real value of output of goods and services as equal to the real expenditures on that output, and all of them precisely in the form of domestic consumption, desired investment, government spending, and export spending by foreign residents.

On the **expenditures** perspective, that the components of aggregate desired expenditures are composed of households' consumption of domestically produced goods and services, desired investment spending by firms, government spending, and export spending by foreigners. In Keynesian economics, the entire components are assumed to be autonomous, that consumption spending has positive relationship with disposabie income, and in the end, the aggregate expenditures schedule slopes upward[19].

in accordance with the circular flow of income and expenditures, all of the relationships show the **real economic activities**. Based on the circular flows, the Keynesian model more broadly highlights the: (i) aggregate desired expenditures and equilibrium national income, (ii) business cycles, equilibrium income, and monetary policy, and (iii) monetary policy, national income, and the balance of trade (see Miller & VanHoose 2004).

Krugman & Obstfeld (2003, 358), McConnell & Brue (2002, 244-5), and Mishkin (1995, 51) affirmed that real **economic activities** need money. Money can be thought of as a particularly simple way of keeping accounts (Stiglitz & Greenwald 2003, 293). In that context, a bank is a financial intermediary that has lending as its core business. There is a close relationship between the creation of credit and the creation of money. The relationship between money and credit is an endogenous one, and is always affected by economic policy, including monetary policy (ibid, 295; and Stiglitz 1997, 761-2).

[19] For more details, please compare the opinions of Miller and VanHoose (2004, 566), with Gärtner (2003, 252-5) on the Government in the Solow Model.

2.2.1 Bank as Financial Intermediaries

To run transaction of payment of fund (money) in an economic activity, really we need also the financial intermediaries (FIs) – both depository institutions (like banks, savings institutions, and credit unions) and non-depository institutions (like investment banks, securities firms, insurance companies, finance companies, and mutual funds). In the real world, the eeonomy has developed an alternative and indirect way to channel households and/or government to the corporate sector through financial intermediaries.

Banks are financial institutions that accept money deposits and make loans (Mishkin, 1995, 9), but nowadays they are, more broadly, a global payment system. They engage in global transactions such as transfers by checks and travelers checks, and also transactions by cyber-banking. Mishkin (1995) argued that banks are important to our understanding of money and economics for three reasons:

1. The banks provide the channel for linking people who want to save with those who want to invest;
2. The banks play an important role in determining the money supply and in transmitting the effects of monetary policy to the economy; and
3. The banks have been a source of the rapid financial innovation that is expanding the ways in which we can invest our savings.

From the above description, it can be said that the business of the banks have an element of ***trust***. In accordance with the state of ***unit trust***, the banking system differentiates between the other financial institutions. Because banks are institutions of

trust, when a bank no longer gets the trust of its customers or other parties who have interest therein, the occurrence of bank runs and bank failure may be anticipated.

As unit trusts, banks take unsecured deposits from third parties or the public and this condition makes the banks have particular characteristics. Some reasons are that the banks' functions become special as absorbers of the available economic liquidities, as a core payment mechanism, and as a principal financing source for most economic activities, e.g. in the giving of credit. Banks also have idiosyncrasies of their deposit balances, especially in running their function as intermediary institutions, with a clear distinction between their obligations (liabilities) and assets (assets). This matter can be seen from the lower cash ratio to assets, the low capital ratio to assets and fund ratio in the short-range to total deposit. From this perspective, it can be said that a bank has systematical risk or otherwise and the bank's management must be sensitive to the impact of possible systematical risk the effect of which may be operational failure.

In addition, banks are special because they have the **exclusive power** to create of money and create of credit to advance it at an interest. This differentiates banks from financial intermediaries in some unique way, giving them a special influence on the economy's resources distribution process and industrial corporate governance structure (Bossone 2000, 25).

Financial institutions have been articulated as institutions that issue deposits and other financial liabilities and invest predominately in loans and other financial assets while financial intermediaries have been described as institutions or financial service firms that issue liabilities to **surplus-speuding units (SSUs)** and use the fund so obtained to acquire liabilities of **deficit-spending uuits (DSUs)**.

Saunders & Cornett (2005, 10) summarized that financial intermediaries (FIs) are shown to be special because of the various services they provide to sectors of the economy. The general areas of FIs specialness include information services, liquidity services, price-risk reduction services, transaction cost services, and maturity intermediation services. Meanwhile, the area of institution-specific specialness is money supply transmission (bank), credit allocation, intergenerational wealth transfers or time intermediation (life insurance companies, pension funds), payment services (banks and thrifts), and denominations and intermediations (pension funds and mutual funds).

To distinguish between banks and other financial institutions, the summary of the most important assets held and liabilities issued by the financial institutions are shown in Table 2.1. If we pay attention to the Table 2.1, it can be clearly seen that the banking system functions directly and indirectly to support the growth and continuity of the real sector. The assets of banks are used to finance the economy in the form of business loans, consumer loans, and mortgages. On the other side, the liabilities collected from the public or third parties fluctuate with the liquidity distortions of a bank.

Levine and Zervos (1998) found that stock market liquidity and private sector credits have strong independent effects on growth. Commenting on this deduction, Beck, Levine, and Loayza (1999, 30) found that an economically large financial intermediary development is associated with growth. From this intervention, it was also stated that better functioning financial intermediaries improve resource allocation and accelerate total factor productivity growth with positive repercussions for long-run economic growth. They argued that the finance growth nexus runs primarily through

total factor productivity growth and not through savings and physical capital accumulation. Furthermore, Levine, Loayza, and Beck (1999) verified that the exogenous components of financial intermediary development are positively associated with economic growth.

Table 2.1 Principal Financial Assets and Liabilities Owned by Financial Intermediaries

TYPE OF INTERMEDIARY	ASSETS (Direct Securities Purchased)	LIABILITIES (Indirect Securities Sold)
1 Deposit-type institutions		
Commercial banks	Business loans	Checkable deposits
	Consumer loans	Saving deposits
	Mortgages	Time deposits
Saving and loan associations	Mortgages	Saving deposit & time deposits
Mutual savings banks	Mortgages	Saving deposits
Credit unions	Consumer loans	Saving deposits
2 Contractual savings institutions		
Life insurance companies	Corporate bonds	Life insurance policies
	Mortgages	
Casualty insurance companies	Municipal bonds	Casualty insurance policies
	Corporate stock	Pension funds' reserves
	Government securities	
Private pension funds	Corporate stocks	Pension funds' reserves
	Corporate bonds	
State & local government pension funds	Corporate bonds	Pension funds' reserves
	Corporate stocks	
	Government securities	
3 Others fund financial institutions		
Finance companies	Consumer loans	Commercial papers
	Business loans	Bonds
Mutual funds	Corporate stock	Shares in fund
	Government securities	
	Municipal bonds	
	Corporate bonds	
Money market funds	Money market securities	Shares in fund
Federal agencies	Government loans	Agency securities

Source: Kidwell, Peterson, and Blackwell (1997, 45)

2.2.2 The Lending Channel

The continuity of the banking system has a strong influence on fiscal and monetary policy, which in the end has impact on the growth, and continuity of the real sector. Furthermore, the growth of the real sector will also help in determining the growth and continuity of economy as a whole. With the existence of links between each other and

the relationship between monetary policy, fiscal policy, the banking system, and the real sector, it is important to maintain this link by running good balances and must guard against the possibility of the incidence of economic-shock, whether systemic or non-systemic.

Laeven, Klingebiel, and Kroszner (2002, 16) investigated the linking between financial crises and industry growth. They found that financial crises have a disproportionately negative effect on externally dependent sectors, especially for developing countries. These results differentiate between externally dependent firms that have tended to obtain relatlvely less external financing in shallower financial systems. In addition, a crisis in such countries has less of a disproportionately negative effect on the growth of externally dependent sectors (ibid, 17). On the other hand, Dermigüç-Kunt and Maksimovic (1997) demonstrated that well developed financial systems are associated with externally financed firm growth.

Dell'Ariccia, Detragiache, and Rajan (2005) found that **the real effect of banking crises** is usually followed by decline in **financing** and **growth**. They summarize that banking crises tend to take place during economic downturns, and banking sector problems have independent negative effects on the economy. At the time the crisis takes place, if the banking crisis has an exogenous detrimental effect on real activity, then the sector that is more dependent on external finance should perform relatively worse during banking crisis. Related to this condition, the differential effects across sectors are stronger in developing countries and in countries with less access to foreign finance where banking crises have been more severe.

Bernanke and Blinder (1988, 1992) focused their model on the bank-lending channel, based on assumptions that so many firms engaged in economie activities are critically

dependent on bank credit for their operations. Most recently, Ramirez & Shively (2005) in an empirical research using U.S. level quarterly time series data from 1900Q1 through 1931Q2 for the 48 contiguous states found from their structural model that bank failures have only minor subsequent effects within the banking sector. Unfortunately, their research addresses whether bank failures has an independent effect on real economic activity, the essence they called **credit or lending channel**.

Mishkin (2005, 619) elucidated that in the monetary transmission mechanism,[20] there are three points of view. These are the interest rate effect view, other assets price effect view, and credit view. All these we know as components of spending (GDP). The credit view is divided into the bank lending channel, balance sheet channel, cash flow channel, unanticipated price level channel, and household liquidity effect. The other assets price effect view consists of exchange rate effects on net exports, Tobin's theory, and wealth effects. In addition, Bernanke and Gertler (1995, 3) emphasized that according to the credit view, a change in monetary policy that raises or lowers open-market interest rates tends to change the external finance premium in the same direction. This occurs because the additional effect of policy on the cost of borrowing (which is broadly defined) and, consequently, on real spending and real activity is magnified (ibid).

[20] Based on Keynesian analysis. The channels thought which the money supply affects the economic activity, called as the transmission mechanism of monetary policy. The structure evidence: M → i → I → Y. Where: M = Monetary (money supply); i = interest; I = Investment spending; and Y = Output. Interpreted from credit view (i) Bank lending channel if M↑ ⇒ bank deposits ↑ ⇒ bank loans ↑ ⇒ I ↑ ⇒ Y ↑ (ii) Balance sheet channel if M↑ ⇒ P_s ↑ ⇒ adverse selection ↓, moral hazard ↓ ⇒ lending ↑ ⇒ I ↑ ⇒ Y ↑: P_s is stocks prices (iii) Cash flow channel if M↑ ⇒ I ↓ ⇒ cash flow ↑, adverse selection ↓, moral hazard ↓ ⇒ lending ↑ ⇒ I ↑ ⇒ Y ↑ (iv) Unanticipated price level channel if M↑ ⇒ unanticipated P ↑ ⇒ adverse selection ↓, moral hazard ↓ ⇒ lending ↑ ⇒ I ↑ ⇒ Y ↑ and (v) Household liquidity effects if M↑ ⇒ P_s ↑ ⇒ financial assets ↑, likelihood of financial distress ↓ ⇒ consumer durable and housing expenditure ↑ ⇒ Y ↑ (see Mishkin 2005, 621-4).

2.2.3 Credit Matters and Real Economy

Lindgren, Garcia, and Saal (1996, 58) discovered that episodes of fragility in the banking seetor have been detrimental to economic growth in the countries concerned. In the fact, Dermigüç-Kunt, Detragiache, and Gupta (2000); Kaminsky and Reinhart (1999); Dermigüç-Kunt and Detragiache (1997) also found that during the recent banking crisis, the growth of output, and private credit growth dropped significantly below normal levels, but they did not test the bidirectional relationships.

Dell'Arricia, Dereagiache, and Rajan (2005, 18) studied the effect of banking crisis on growth on industrial sectors and found that in sectors that are more dependent on value added external finance, capital formation, and the number of establishments grew relatively less than in sectors less dependent on external finance. These matters indicate that empirically the role of banking in sustaining business activity on the real sector is very dominant. They also interpret that **channel of lending** to be very important at the time of a crisis. In detail, the crisis convulsions that happened resulted from the happening of twin weaknesses, that is, weakness of the banking system as well as weakness of the economy. The banking distress automatically lessens supply of lending and shows adverse effect on growth. Their findings were true since in reality that was what happened. The effect was stronger in developing countries (likes Sri Lanka 1989, Chile 1981, Indonesia 1992, Nepal 1988, Nigeria 1991, and Venezuela 1993)[21]. This matter was so because these are countries with less access to foreign finance. They again found that the effects of recession and financial crisis during the period, showed empirically that the basic weaknesses of the banking system are the liquidity and solvency problems.

[21] Based on cost of crisis from bank lending channel above 15% GDP (Dell'Arricia, Dereagiache, and Rajan 2005, 30)

The results of the research showed that the existence of policies made by the authorities or government have the truth and support of their decisions, that is more important to support the banking industry compared to commercial enterprise. In a situation like that, it is difficult to replace the role of the bank as source of finance suddenly. This is a new irony that profitable production activities may have to be reduced and viable investment projects neglected. Here, the banking system has been trapped in, that is, through misallocations of their resources via unanticipated economic conditions. The bank-lending channel will generate contractions of an economic activity as well as bank distress reinforces each other.

Ghost and Ghost (1999) used disequilibrium framework to investigate a possible credit crunch in the East Asian crisis countries (Indonesia, Korea, and Thailand) during 1997-1998. Jayaratne and Strahan (1996) in studying relaxation of bank branch restriction in United States expressed their opinion that money market earnings directly influence the growth of economies. In contrast, the increased volume of bank lending (not at moment's notice) improved growth, exactly faster growth reached with improvements of loan quality by the banks. For Indonesia, they summarized that there was a sharp contraction in the real supply of credit, coupled with a concomitant increase in credit demand. It meant that the supply of credit was the binding constraint. Then the demand for credit contracted as well, and supply of credit was no longer the constraining factor (ibid, 3).

Disyatat (2001, 3) stated that when the banking sector is healthy, the standard Keynesian effect applies: out put increase as monetary policy is eased and real faetor cost decline, but when banks are weak, a devaluation will bring about contraction in the real economy. Furthermore, Disyatat stated that an economy whose banks are

weak, in term of low net worth, high exposure to currency risk, and bad quality assets, is much more vulnerable to output collapse in the wake of currency crisis.

The problems that emerge at periods of crisis are how to design and apply policies in so many pressures, like economic and political pressures. To see the real impact between **banking** and **economic growth**, the pressures can be evaluated using the loanable funds theory[22] of interest as presented in Figure 2.3.

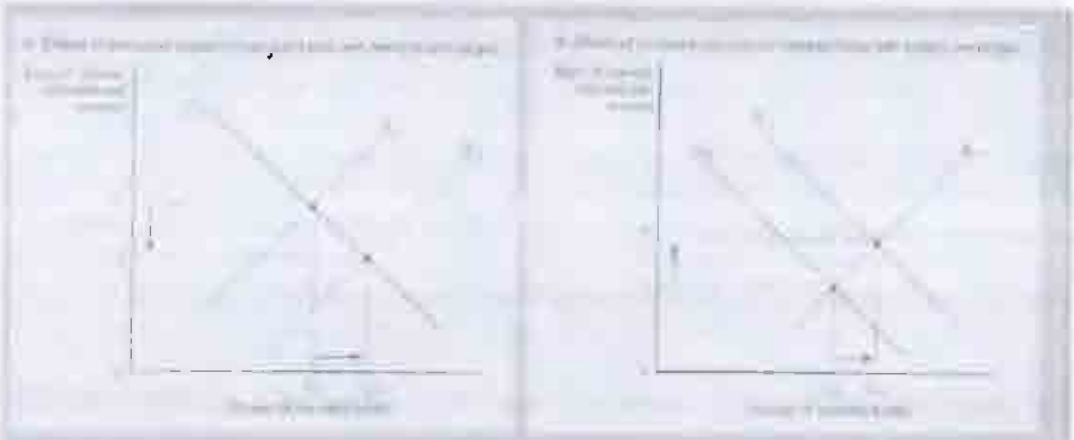

Figure 2.3 Changes in the Demand for and Supply of Loanable Funds
Source: Rose (2003, 133)

Remarks:

S_{LF} = Domestic savings + Newly created money + Foreign lending to domestic credit markets – Hoarding Demand for cash balances

D_{LF} = $D_{consumer} + D_{business} + D_{government} + D_{foreign}$

If the total supply of loanable funds and total loanable funds demand change slowly, the volume of money and capital markets will increase and as a result, the interest rate will fall. This is illustrated in Figure 2.3A by the supply schedule shift to the right side, from S_{LF} to $S`_{LF}$. The effect of this sliding shows a new balance downhill on the

[22] This theory just thought about loanable funds without credit rationing. The ideal banking system should be by credit rationing, so that the decrease in the supply of loans translates directly into a reduction in economic activity, not mediated at all by change in the real interest rate (see Stiglitz and Greenwald 2003, 46-7). The determinants of the interest rate are the loanable funds theory based on Fisher's theory (see Irving Fisher, *The theory of interest Rate*, New York: Macmillan, 1930), and the liquidity preference theory of Keynes.

interest rate, which is from i_1 of to i_2. Its consequence is total loanable funds traded in financial system will increase from C_1 to C_2.

In the illustration in Figure 2.3B, the demand curve of the loanable funds increase from D_{LF} to D'_{LF} driving the interest rate upward from i_1 to i_2. This situation is pushed by the existence of requests for the loanable funds with no change in the total supply of funds available. This is the effect of the volume of credits extended, but this matter is aecompanied with higher interest rate.

From the explanations given on illustration 2.3.B, we can summarize that in the periods of crisis, the interest rates go higher, but the real sector (communion of firms) still have strong constraints to get the lending, leading to the so-called credit crunch[23]. There are two points of view, from banking to borrowers, as follows:

1. At the new point of equilibrium, only companies which have good performance are capable to source financing from outside the banking system while companies whose performance are not so good remain to cope to get bank lending, and
2. Banks can look for high-yield government securities in their assets portfolio.

In other words, banks see performance as an indicator of a company's competence before they give financing or not. Thus, the determining factor is the company's financial performance, which can be seen from their financial statements. However, when that financing becomes risky, banks will ehoose to place their funds in government securities or other securities that produce the high-yield.

[23] Credit crunch is a period during which lenders are unwilling to extend credit to borrowers. This condition has linking with credit squeeze as a set of measures to reduce economic activity by restrieting the money supply (Dictionary of Finance & Banking 2005, 98).

Huang, Marin, and Xu (2004, 7) called the condition as **banking-trap** and this affects the existence of separation and hinders banking sector development and economic growth although on the surface there is financial exuberance, particularly in the government securities market. They also emphasized, however, that whether economic recovery and growth can continue depends critically on whether banking development can be sustained (ibid, 28).

On the other hand, Stiglitz and Greenwald (2003, 46) argue that matter on the loanable theory (no rationing credit) is not just supply of savings, funds are not spent on consumption goods, but a supply of credit, then credit that can finanee investment of firms or consumption of households. Here, the financial institutions are playing the role important in determining the supply of credit. In a state of recession, the decrease in the supply in a recession may well outpace the decrease in the demand for funds, so that even the interest rates were determined by the intersection of supply and demand for funds, the real interest rate facing borrowers could rise, thereby exacerbating the downturn (ibid).

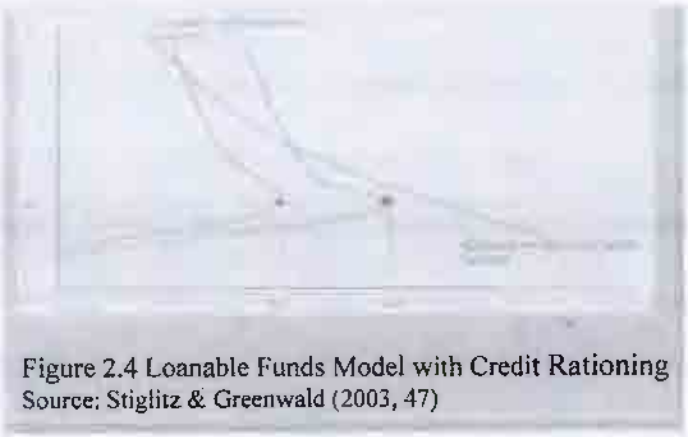

Figure 2.4 Loanable Funds Model with Credit Rationing
Source: Stiglitz & Greenwald (2003, 47)

Remarks:

With credit rationing, the equilibrium interest rate (the rate that maximizes expected returns for the lender) is below the level at which the demand for loanable funds equals the supply. The leftward shift in the supply curve for loanable funds leads to less lending but no change in the interest rate, then the extent of credit rationing is increased. This matter cased by expected returns actually decrease when the interest rate exceeds r*, the supply of loanable funds deereases (for more detail the background of this theory see Stiglitz & Greenwald 2003).

On the credit rationing, the interest rates may not be determined by the intersection of the supply and demand of loanable funds. The loanable funds model with credit rationing presented on Figure 2.4. In addition, we can interpreted that loanable funds model with credit rationing more extent to explain that the credit or lending very important component to have influence directly to the real economy activity.

2.3 Banking Performance Measurement

2.3.I Banking Indicator Measurement

In the global banking arena, the measurement of the performance of all banking systems comes under Basel II umbrella. Generally, the banking system has adopted uniform performance report, like the Uniform Bank Performance Report (UBPR). The Federal Financial Institute Examination Council (FFDIC) has made a comprehensive analytical tool for the UBPR. This tool uses the **bank financial statements** including **balanee sheet** and **income statement** (see Appendix 1 for general reference).

The bank's balance sheet presents financial information about assets, liabilities, and equity (where total assets = total liabilities + capital). Assets indicate what the bank owns, liabilities represent what the bank owes, and equity refers to the owners' interest (Koch 1995, 94-5). The assets of a bank, as uses of funds, can be grouped into some general categories: reserves, cash items in the process of collection, deposits at other banks, investment securities, loans, and other assets. On the other hand, the liabilities of a bank, as sources of funds, include checkable deposits, non-transaction deposits, and borrowings. In addition, bank capital as equity or the bank's net worth, consists mainly of common and preferred stock (listed at par value), surplus or additional paid-in capital, and retained earnings.

In the beginning, Cole (1972) in Koch and MacDonald (2000, 111) introduced a proeedure for evaluating bank performance via ratio analysis[24]. He made the nature of bank profits by the decomposition of return on assets (ROA) as shown in figure 2.5. Based on the composition of the ROA model as shown, we can break down the performance measures to calculate the aggregate bank profitability i.e. return on equity (ROE), net income (NI), expense ratio eomponents (ER), and net interest margin (NIM)[25].

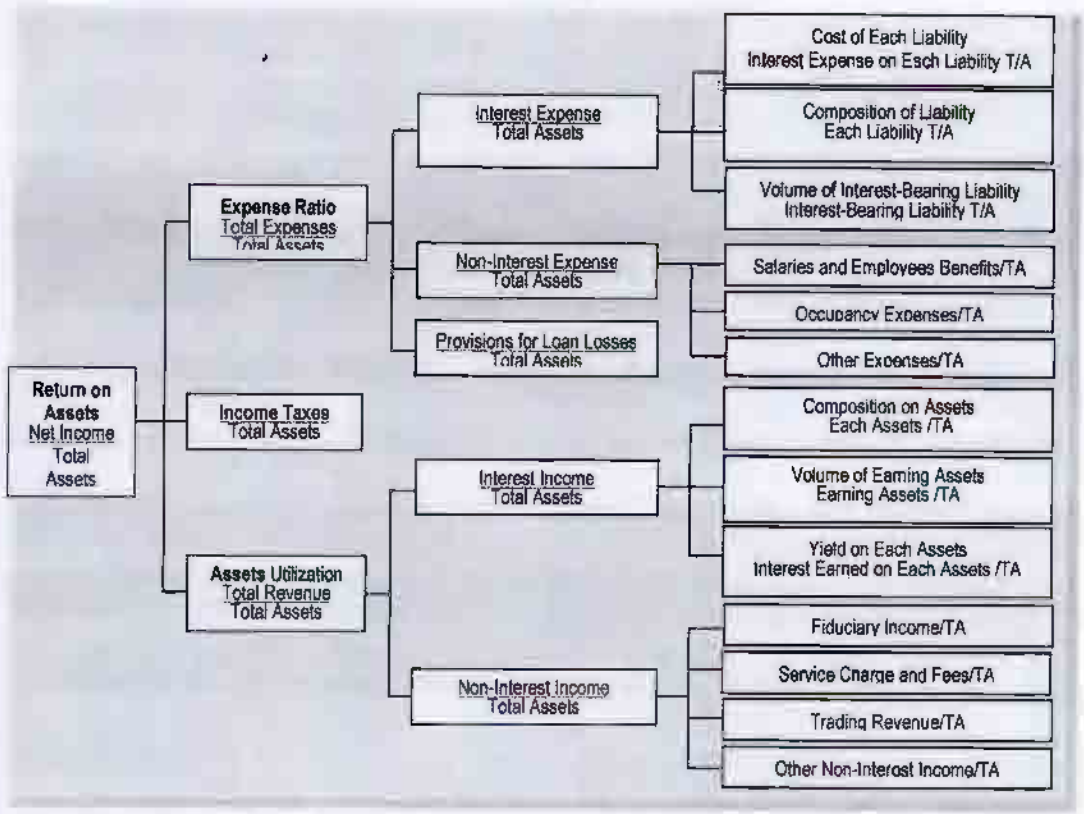

Figure 2.5 The Composition of ROA Model

The ROA by definition is:

ROA = Net Income / Total Assets

[24] Cole gave an account of ratio analysis based on DuPont financial analysis in 1972.
[25] All of calculated based on **Balance-Sheet** and **Income Statement**, which the measure of formula into account, it can compare between Koch & MacDonald (2000, 103-119), Madura (2003, 557), and Mishkin (1995, 265-7).

Here, the ROA measures the level of net income per dollar on average assets owned during one period. There are simple relations between ROE and ROA with financial leverage, which for ROE can be defined as follows:

$$ROE = \text{Net Income} / \text{Total Equity}$$

ROE is interpreted as percentage return on each dollar of stockholders' equity. The higher the rate of return, the better the ability of the bank to retain its earnings and pay more in cash dividends.

Hereinafter, the link between the ROE and the ROA can be explained through the equity multiplier (EM) and is defined as:

$$ROE = \frac{\text{Net Income}}{\text{Average Total Assets}} \times \frac{\text{Average Total Assets}}{\text{Average Total Equity}}$$

$$ROE = ROA \times EM$$

The value of ROE expresses the level of ability of stockholder equity to debt financing by comparing the level of equity multiplier to assets. Where EM can be calculated, it measures financial leverage showing leverage measure and risk. This matter is expressed with multiplier impact, which it owns to assets (ROA) in determining the level of ROE. This means that the improvement of ROE can be obtained with improvement of ROA or improvement of solvability. Thereby EM as risk measure can be used as reference to show how big the assets must be to allow default before a bank becomes insolvent. At positive net-income, the higher EM will improve ROE to indicate high capital or solvency-risk. The breakdown of ROE into various financial ratios are as shown in Figure 2.6.

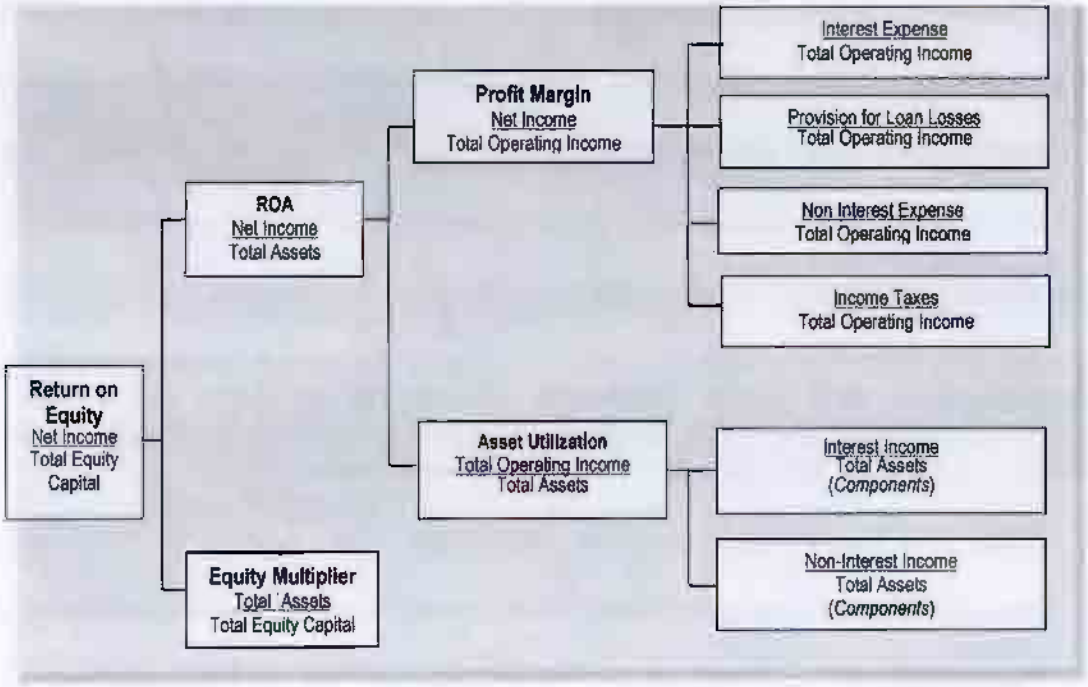

Figure 2.6 Breakdowns of ROE into Various Financial Ratios
Source: Saunders & Cornett (2005, 62)

From Figure 2.6, we can explain that the Profit Margin (PM) measures the ability to pay expenses and generate net income from interest and non-interest income, and the Assets Utilization (AU) measures the amount of interest and non interest income generated per dollar of total assets (Saunders & Cornett 2005, 62).

The ROA consists of two prineipal parts, i.e. income generation and expense eontrol (including tax).

For net income (NI), by definition:

$$NI = \text{Total Revenue (TR)} - \text{Total Operating Expenses (TOE)} - \text{Taxes}$$

Where:
TR = Net Sales + Others Income
TOE = Interest expense + Non-interest expense + Loan provision + Lease losses

The impact of specific types of operating expenses is calculated in three ratios:

1. Interest expense ratio = Interest expense (IE) / Average total assets (TA);
2. Non interest expense ratio = Non interest expense (NIE) / Average total assets (TA); and
3. Provisions for loan loss ratio = Provision for loan losses (PLL) / Average total assets (TA).

Furthermore, the other aggregate profitability measures that are usually used are the: NIM (net interest margin), spread burden, and efficiency ratios:

1. NIM = Net Interest Income (NII) / Earning Assets;
2. Spread = Interest income / Earning Assets – Interest expense / Interest bearing liabilities; and
3. Burden ratio = (Non interest expense – Non interest income) / Average total assets; and
4. Efficieney ratio = Non-interest expense / (Net interest income + Nominal interest income).

From above description may affirm that a basic measurement of bank profitability based on capital affects returns to equity holders. The equity holders in the low capital bank are clearly a lot happier then the equity holders in the high capital because they are earning more then twice as high a return (Mishkin 2005, 215). It is mean; by low percentage of capital bank can created the higher the return for the owners of the bank. This is the dark side of the eapital composition, which is way the Basel Committee was applied the capital minimum requirement (CAR) of equal to 12%.

Koch (2000) elucidate that there are two fundamental **weaknesses** of the risk-based capital requirements. First, the formal standards do not account for any risks other than credit risk. This matter affirms that asset composition determining formal capital

composition for a bank, because, in fact, bank asset is obligation of bank of third party fund. However, third party fund very fragile to liquidities, for the reason, the regulator also determines other measure, which used in determining the liquidity of do a bank. Second, the book values of capital not reflection the most meaningful measure of soundness. Here, the problem is the measure disregard change by market price of asset on loss or profit which not yet be realized of bank investment and other asset value. Because in practice, the book values can be manipulated through accounting ploys an often substantially overstate the firm's true market value.

The formal standard to measure the bank performance usually referred to the international standard has been applied around the world. The Monetary and Financial Systems and Statistics Department (MFSS) IMF (2003, 40) proposed a revision to *core* and *encouraged sets* for the Financial Soundness Indicators (FSIs) as shown in Table 2.2.

For this research, the bank performance should be adopted from the regulator that is Bank Indonesia (BI, Bank Central of Indonesia). The variable of banking performance is based on the component factors from BI circular letter No. 6/23/DPNP dated 31 May 2004 concerning Rating System for Commercial Banks. Bank rating is the qualitative rating of various aspeets affecting the condition or performance of a bank by means of quantitative rating and/or qualitative rating of the factors of capital, assets quality, management, earnings, liquidity, and sensitivity to market risk. The quantitative rating is rating of the position, developments, and projection of financial ratios of the bank. The qualitative rating is rating of the factors supporting the results of quantitative rating, application of risk management, and the compliance of bank. The scope of bank rating eneompasses rating will resume on Table 2.3.

Table 2.2 Financial Soundness Indicators for Deposit-taking Institutions and Corporate Sector

Financial Soundness Indicators

Deposit-taking institutions (CAMELS)	**Core Set**
Capital adequacy	Regulatory capital to risk-weighted assets
	Regulatory Tier I capital to risk- weighted assets
Assets quality	Non performing loans to total gross loans
	Non performing loans net of provisions to capital
	Sectoral distribution of loans to total loans
Earnings and profitability	Return on assets
	Return on equity
	Interest margin to gross income
	Non-interest expenses to gross income
Liquidity	Liquid assets to total assets (liquid asset ratio)
	Liquid assets to short-term liabilities
Sensitivity to market risk	Durations of assets
	Durations of liabilities
	Net open position in foreign exchange to capital
	Encouraged Set
Corporate Sector	Total debt equity
	Return on equity
	Earnings to interest and principal expenses
	Corporate net foreign exchange exposure tc equity
	Number of applications for protection from creditors

Source: Monetary and Financial Systems and Statistics Department (MFSS) IMF (2003, 40)

Table 2.3 Bank Rating Factors

No	Factor	Remarks
1	Capital	• Adequacy, composition, and projection (forward trend) in capital and the capacity of bank capital to cover problem assets; • Capacity of the bank to meet the need for additional capital from earnings, capital plan of the bank support business expansion, access to sources of capital, and financial performance of shareholders in building the capital of the bank.
2	Assets quality	• Earning assets quality, concentration of credit risk exposure, developments in problem earning assets, and adequacy of allowance for earning asset losses; • Adequacy of policy and procedures, internal review system, documentation system, and performance in management of problem earning assets.
3	Management	• Quality of general management and application of risk management; • Bank compliance with appliceble legal provisions and commitments made to regulator.
4	Earnings	• Performance in return on assets (ROA), return on equity (ROE), net interest margin (NIM) and level of efficiency of the bank; • Development in operating profit, diversification of revenues, application of accounting principles in recognition of revenues and expenses, and prospects for operating profit.
5	Liquidity	• Ratio of liquid assets/liabilitias, potential for maturity mismatch, condition of loan to deposit ratio, cash flow projection, and funding cencentrations; • Adequacy of policy and management of liquldity (assets and liabilities management/ALMA), access to funding sources, and stability of funding.
6	Sensitivity to market risk	• Capacity of bank capital for covering potential loss from adverse movement in interest rates and exchange rates; • Adequacy of application of market risk management.

Source: Summaries from Bank Indonesia Regulation Number 6/10/PBI/2004

Based on the rating of each component referred to in Table 2.3, the composite rating shall be determined based on the rating of each of the factors referred to in Table 2.3. The composite rating shall determine by:

1. Composite rating 1 (CR-1), indicating the bank is in excellent condition and able to withstand impact from negative changes in economic conditions and financial industry;
2. Composite rating 2 (CR-2), indicating that the bank is in sound condition and is able to withstand impact from negative changes in economic conditions and financial industry, notwithstanding the bank still has minor weaknesses that can be quickly resolved through routine measures;
3. Composite Rating 3 (CR-3), indicating that bank fairly sound condition but has weaknesses that may lead to deterioration in composite rating if the bank does not take immediate corrective actions;
4. Composite Rating 4 (CR-4), indicating that the bank is in poor conditions and sensitivities to impact from negative changes in economic conditions and the financial industry;
5. Composite Rating 5 (CR-5), indicating that the bank is in sound condition and highly sensitive to impact from negative changes in economic condition and financial industry, and is experiencing financial difficulties endangering its survival.

2.3.2 Bank Capital Structure

Banks as a part of the financial institutions is one of the industries in the world, which is full of regulations. One of them is the adequacy or sufficiency of capital measured by the capital adequate ratio (CAR). To measure the CAR, we must understand the

role bank capital performs. According to Kidwell, Peterson, and Blackwell (1999, 442), bank capital performs four principal roles as follows:

1. Provide a financial cushion that enables banks to continue to operate even if they suffer temporary operating losses;
2. Adequate capital helps maintain public confidence in the soundness and safety of individual banks and the banking system;
3. Adequate capital provides some protection to depositors whose bank accounts are not fully insured; and
4. Capital is a source of funds for the bank's growth and addition of new products, services, or facilities.

In addition to all the above, Mishkin (1995, 265) mentioned that there are three reasons why banks make decisions about the amount of the capital to hold. These are as follows:

i. Bank capital helps prevent bank failure which is a situation where the bank cannot satisfy its obligation to pay depositors, creditors and other parties;
2. The amount of capital affects the return for the stock-holders of the bank; and
3. Regulatory authorities require a minimum amount of bank capital.

Bank capital consists of two basic components that are described as Tier 1 and Tier 2. Table 2.4 shows the element from both components. The capital adequacy ratio (CAR) is calculated using the definition of regulatory capital and risk-weighted assets. According to Basel II[26] capital adequacy rules, the calculation of CAR is based on one of two components of credit-risk-adjusted-assets as denominator. They are credit-risk-

[26] Basel II foeuses on four conditions: credit risk and operating risk, three pillars (minimum capital requirements, supervisory review, and effective market discipline), and the goal is not raise average capital requirements, and have same Tier I and Tier II capital concept.

adjusted **on-balance** sheet assets, and credit-risk-adjusted **off-balance** sheet assets.

The total capital adequacy ratio must be no lower than 8%.

Table 2.4 Primary Capital and Secondary Capital on Banking Industries

COMPONENT	MINIMUM REQUIREMENT
Core Capital (Tier 1)	Must equal or exceed 4% of weighted-risk assets
Common stock holder's equity	No limit.
Qualifying Cumulative & noncumulative perpetual preferred stock	Limited to 20% of the sum of common stock, minority interest, and qualifying perpetual preferred stock.
Minority interest in equity accounts of consolidated subsidiaries.	Organization should avoid using minority interest to introduce elements not otherwise qualifying for Tier 1 capital
Less: Goodwill.	
Supplementary Capital (Tier 2)	A tier 2 capital is limited to 100% of Tier 1 capital.
Allowance for loan lease losses	Capital subject to the limit of 1.25% of risk weighted assets.
Perpetual preferred stock	No limit within Tier 2
Hybrid capital instrument, perpetual debt, and mandatory convertible securities	No limit within Tier 2
Subordinated debt and intermediate-term preferred stock (original weighted-average maturity of five years or more)	Subordinated debt and intermediate-term preferred stock are limited to 50% of Tier 1; amortized for capital purposes as they approach maturity
Revaluation reserves (equity and buildings)	Not included; organization encouraged to disclose; may be evaluated on a case by case basis for international comparisons and taken into account in making an overall assessment of capital.
Deductions (from sum of Tier 1 and Tier 2)	Deduction must be on the basis of 50% from Tier 1 and 50% from Tier 2
Investment in unconsolidated subsidiaries	
Reciprocal holdings of banking organizations' capital securities	As general rule, one-half of the aggregate investments would be deducted from Tier 1 capital and one-half from Tier 2 capital
Other deductions (such as other subsidiaries or joint ventures) as determined by supervisory authority.	One case-by-case basis or as a matter of police after formal rule making
Total capital (Tier 1 + Tier 2 – Deductions)	Must equal or exceed 8% of weighted risk assets

Source: BCBS (2004, 12-4) and Saunders & Cornet (2005, 581)

This is calculated as:

$$\text{Capital Adequacy Ratio} = \frac{\text{Tier 1} + \text{Tier 2}}{\text{Credit risk-adjusted assets}} \geq 8\%$$

For the Tier 1, Capital Adequacy Ratio is calculated as:

$$\text{Capital Adequacy Ratio} = \frac{\text{Tier 1}}{\text{Credit risk-adjusted assets}} \geq 4\%$$

According to BI Regulations Number 5/12/PBI/2003[27] concerning the minimum capital requirement for commercial banks, account must be taken of market risks, which are divided into three criteria as follows:

1. Banks with total assets equal to or greater than IDR 10 Trillion;
2. Foreign Exchange Bank with a securities position and /or derivative transaction position in the Trading Book equal to or greater than IDR 20 billion; and
3. Non-Foreign Exchange Bank with a securities position and/or derivative transaction position in the Trading Book equal to or greater than IDR 25 billion.

For any Bank that meets the three criteria above, it shall be required to continue to take into account Market Risk in the minimum capital requirement. Therefore, a Bank may include Tier 3 Capital for calculating the minimum capital requirement. Inclusion of Tier 3 Capital into the calculation of the minimum capital requirement may only be used for calculation of market risk. Accounts that may be included as Tier 3 Capital are short-term subordinated loans. Furthermore, Tier 3 Capital for taking account of market risk may only be used subject to the criteria (i) not exceeding 250% of the portion of Tier 1 Capital allocated for taking account of market risk, and (ii) the sum of Tier 2 Capital and Tier 3 Capital does not exceed 100% of Tier 1 Capital. Moreover, any unused Tier 2 Capital may be added to Tier 3 Capital.

[27] This regulation has been in line with BIS (Bank International for Settlement) Standard, called as Basel Standard.

2.3.3 Impact of Capital Adequacy Requirement

Under BI standards, the capital requirements as risk-related with the other standards, like reserve requirements. Stiglitz and Greenwald (2003, 84-87) elucidate that CARs' impose a limit on the amount of lending that a bank with a fixed asset base can engage in. This condition at anytime will generate the bank undertakes more additional risk within its portfolio, monitoring less and charging in higher interest rate. According to this research, after bank recapitalized, they got additional capital by government bonds. Its mean, they, have additional assets by government bond excluding the existing loans. Increasing CAR leads to reduction for loans, hence, the impact not only to the limited loans also to inefficient matter.

Form of inefficiency matter can in the form of the inereasing of interest rate, moving to a riskier loan portfolio, and investing less in screening and monitoring. When banks can invest in either long-term bonds or loans, an increase in the CAR may lead to little reduction in risk, but a large reduction in lending (Stiglitz and Greenwald 2003, 87). If a large reduction in lending will be come for long-term, hence, the lending stag will be effluence directly to economy activities by domino effects.

2.3.4 Banking Arcbitecture

Koch and MacDonald (2000, 39) mention that the commercial banks play an important role in facilitating economic growth. On the macro economic level, they represent the primary conduit of Central Bank monetary policy. The Central Bank has a few main functions to conduct as their mission. The bank is charged to: (i) maintain monetary stability, (ii) maintain the financial sustainability, (iii) strengthen the effectiveness of monetary management, (iv) create a sound and effective banking

system and financial system stability, (v) maintain the security and effectiveness of the payment system, and (vi) give full support to increase the effectiveness of good governance implementation for all banks under its authority. By and large, the Central Bank's effort to control the nation's reserves and money supply are accomplished by changing the availability of credit at banks to boost economic activity. On micro economic level, commercial banks represent the primary source of financing or credit to most firms, such as SMEs, corporate enterprise, and many individuals.

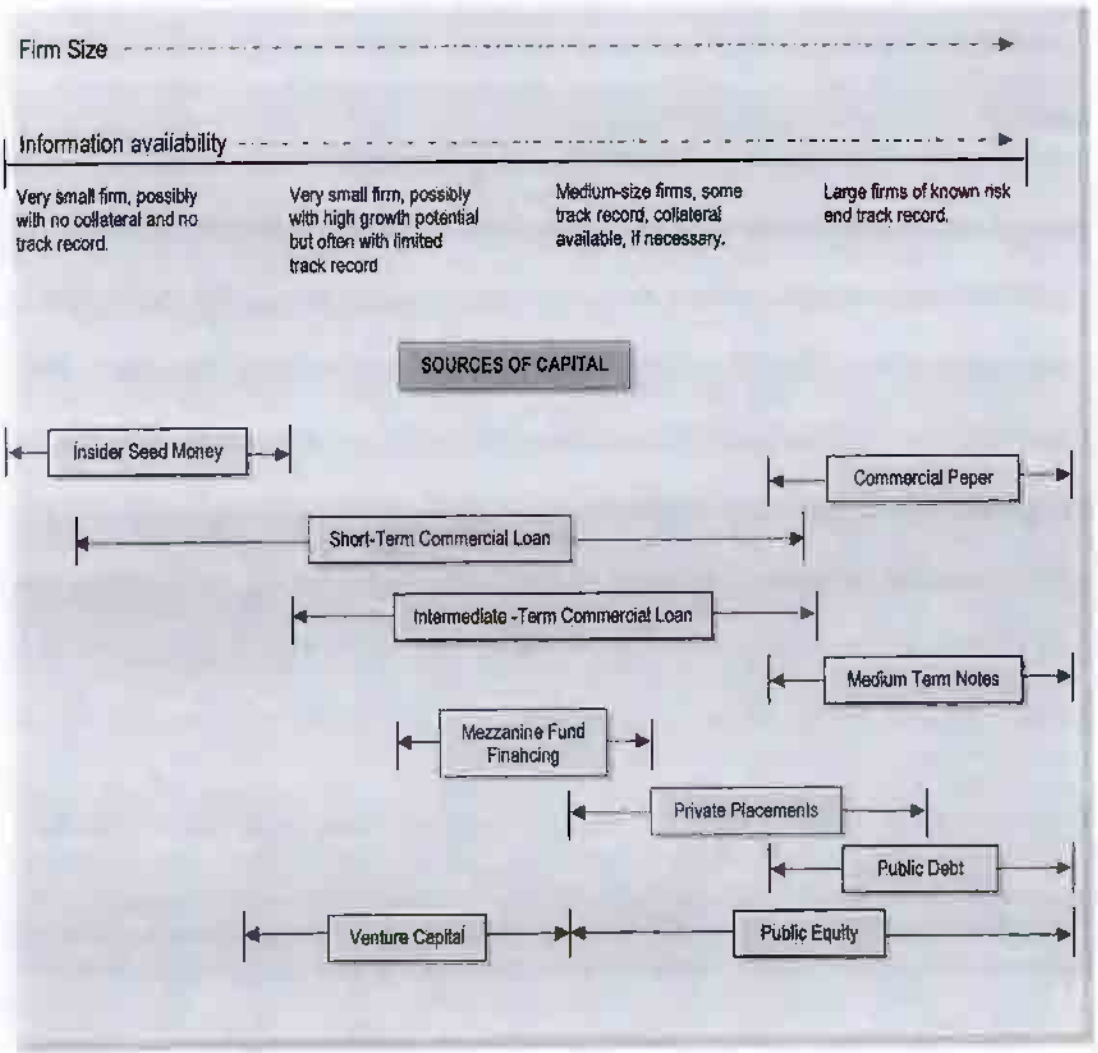

Figure 2.7 Sources of Capital vs. Firms Continuum
Source: Carey, Prowse, Rea, and Udell (1993) in Rittel, Siber, and Udell (1999, 282)

How the intermediate markets work, especially in the banking system can be put under the umbrella called **banking architecture**. How the banking system works as sources of capital in the financial system is explained via the firms' continuum in Figure 2.7. From Figure 2.7 and the foregoing explanation, the role of banks as the dominant financing source for economic activity cannot be overemphasized. What is needed is the regulation by central bank, how the road map or banking architecture is practiced. The banking architecture is the materialization of the banking landscape in a country. When the banking architecture in a country is weak, it can trigger off the onset of systematic banking risk, with extensive currency crisis or monetary crisis. To establish the banking systems, there is need for a sophisticated arrangement of the banking architecture.

2.3.4.1 Theory of Banking Architecture

The financial intermediaries' services have been subject to dramatic changes since the 3GMC knocked out the Asian countries. Within the decade, the banking architecture has been influenced not only by the monetary or financial crisis but also by the systemic banking crisis. According to the Group of Ten (2001) from Basel, the main forces encouraging consolidation in mature market banking systems are globalization, information technology, deregulation, and discouraging of the lack of information and transparency, cross-country differences in regulatory frameworks, ownership structures, and cultures in emerging markets. All of the encouraging and discouraging factors will have influence to rapidly change the **banking architecture**.

According to Gelos and Roldós (2002), in most of the Asian crisis countries, government-led restructuring processes have led to a reduction in the number of

banks, but the degree of concentration has remained relatively stable. They used Hirhman-Herfindahl Indices (HHI) by the share in total deposits of the largest banks (see Box 1). The HHI uses a concentration of ratios to evaluate competitive conditions and relies on the theoretical predictions of the structure-conduct-performance paradigm.

Previous research by Panzar and Rosse (1987) used the relationship between revenue and marginal costs to assess changes in the competitive structure, but unfortunately, the approach has typically been applied to cross-sectional data from developed countries only. The advantage of the Panzar and Rosse (PR) model is that it uses bank-level data, differences in specific bank production functions and types of banks (such as larges versus small, foreign versus domestic). The PR model assumes that the banking industry is in long run equilibrium, the other method comes from Bresnahan (1989) that uses the condition of general market equilibrium. The basic idea is by placing maximum profit of company in equilibrium to determine price and quantities such that marginal costs equal their marginal revenue.

Koch & MacDonald (2000, 45) separate the structure of banks into five categories, i.e. global banks, nationwide banks, super regional banks, regional banks, and special banks (limited region and limited product line). But in fact, the development of the banking landscape or banking architecture in an state, very much depended on the policy of the local monetary authority and how far the influence of bank business go, society circumstances, beside the bank culture that serves as its background.

Box 1 Calculation of the Herfindahl-Hirschman Index (HHI)

The HHI formula expression by

$$HHI = \sum_{i=1}^{n} MS_i^2 ,$$

MS = The market share of bank I
n = Number of banks in the market

For example:

	Deposit market share
Bank 1	30
Bank 2	25
Bank 3	21
Bank 4	16
Bank 5	8

The HHI = $30^2+25^2+21^2+16^2+8^2 = 2,286$

Suppose that banks 3 and 5 merge. After the merger, the HHI = $30^2+29^2+25^2+16^2 = 2,622$, with a post-merger increase ΔHHI = 336.
In antitrust evaluation this merger may be rejected, because it violates the 1,800/200 rule.

By construction, the HHI has an upper value of 10,000, in the case of a monopolist firm with 100 percent share of the market, and tends to zero in the case of a large number of firms with very small market shares.

The HHI synthesizes information on both the distribution of market shares and the number of banks in the market. With some manipulation it could be rewritten as

$$HHI = \frac{V^2 + 1}{n},$$

where *V* is the coefficient of variation of deposit market shares, and *n* is the number of firms in the market. This feature of the HHI makes it more popular than other concentration indicators, such as the *n-firm ratio*, calculated as the sum of the market shares of the *n* largest firms in the market, where *n* is usually 3 or 4.

Source: Adopted from Cetorelli (1999, 3)

2.3.4.2 Indonesia Banking Architecture

Granted that the architecture is an integral part of the bank-restructuring program and the post-IMF White Paper[28] on restructuring of the national banking system, Bank Indonesia commenced the implementation of the architecture in 2004. The Strategies to achieve this Indonesian Banking Architecture was launched on January 9, 2004. In the architecture, the policy direction for the future development of the banking industry is based on the vision of building a sound, strong, and efficient banking system to create financial system stability for the promotion of national economic growth (BI, 2004, www.bi.go.id).

[28] The White Paper was Presidential Instruction Number 5/2003, issued on 15 September 2003 as Implementation of the Economic Policy Package Pre and Post IMF and part of National Economic Recovery Program.

The Central Bank argued that the architecture represents an urgent need for the Indonesian banking system in order to strengthen the fundamentals of the banking industry. The 1997 economic crisis demonstrated that Indonesia's banking industry lacked the proper institutional basis, and therefore requires strengthening of the fundamentals to be able to withstand internal and external shocks.

Starting with the need for stronger banking fundamentals and to take the ongoing bank restructuring program to the next stage of progress, the changes envisaged in the architecture will be implemented in four stages, i.e. the Six Pillars of the Indonesian Banking Architecture, the Challenges Ahead, Action Plan, and Phases of Implementation. To bring the vision of the Architecture to fruition as described above, a number of objectives have been established by BI as given in Box 2.

Box 2 The Six Pillars of the Indonesian Banking Architecture

1. Creation of robust structures for the domestic banking system, capable of meeting the needs of the public and promoting sustainable economic development.
2. Creation of an effective system for bank regulation and supervision in line with international standards.
3. Creation of a strong, highly competitive banking industry, resilient in the face of risks.
4. Building of good corporate governance for internal strengthening of the national banking industry.
5. Provision of a complete range of infrastructure to support the creation of a healthy banking industry
6. Empowerment and protection for consumers of banking services.

Source: Bank Indonesia, 2004

Especially for the central bank, improvement program will be implemented in stages. Measures for strengthening bank capital will be put into place through the preparation of business plans containing deadlines, methods, and stages of progress (Box 3).

Box 3 Program for Reinforcing the Capital of Commercial Banks

Capital may be increased through the following means:

1. Addition of fresh capital, whether from existing shareholders or new investors;
2. Merger with another bank (or several banks) to meet the new minimum capital requirement;
3. Conducting secondary offerings (issuance of new shares) on the capital market;
4. Raising subordinated loans.

In the next 10 to 15 years the programs are expected to move the banking system towards a more optimum structure is envisaged as follows:

1. Two or three banks likely to emerge as international banks, possessing the capacity and ability to operate on an international scale and having total capital exceeding Rp50 trillion.
2. 3 to 5 national banks, having a broad scope of business and operating nationwide with total capital between Rp10 trillion and Rp50 trillion.
3. 30 to 50 banks operating as focused players, with operations focused on corporate, consumer, retail and others. These banks will have capital of Rp100 billion up to Rp10 trillion.
4. Rural Banks and banks with limited scope of business, having capital of less than Rp100 billion.

Source: Summarize from Bank Indonesia (2004).

Figure 2.8: The Envisaged Structure of Indonesian Banking System in Indonesian Banking Architecture by Central Bank of Indonesia Illustrated.

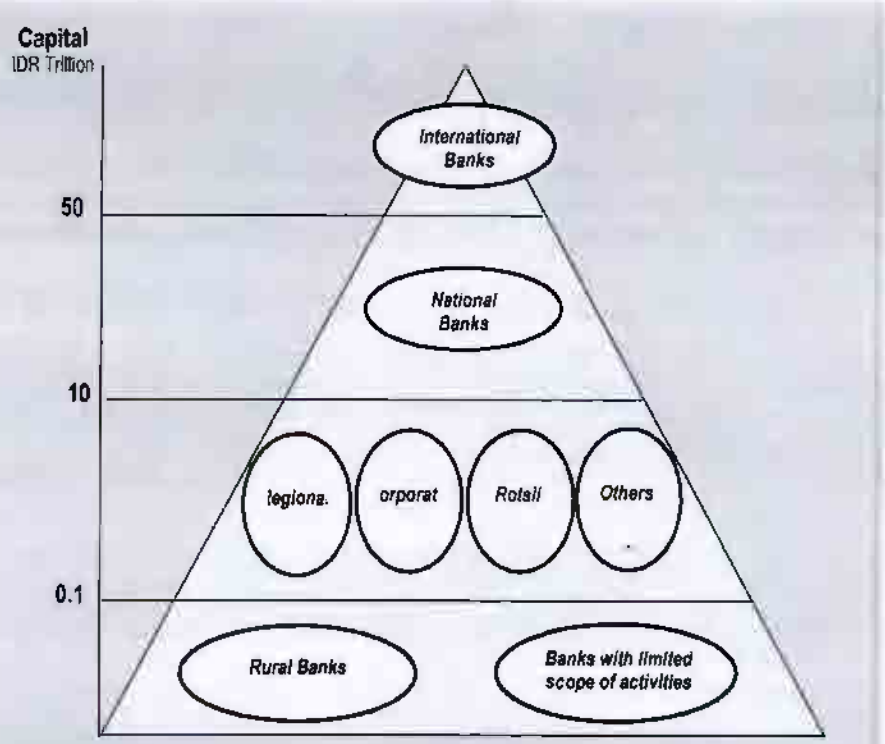

Figure 2.8 Envisage of Indonesian Banking Architecture
Source: Bank Indonesia, 2004 (www.bi.go.id)

Simatupang (2004) has been using the data of assets, capital, net income, ROA and ROE, since 199i to 2002 of all commercial banks operating in Indonesia during the above period. His findings according to the Z-Seore measurements show that the new map of Indonesian banking architecture will turn four banks into national scale, 51 banks have to focus scale, and 20 banks have to limit their scopes. This result is only possible when the monetary authority/government apply the Program for Reinforcing the Capital of Commercial Banks and enhancing Indonesian Banking Architecture.

2.4 Banks Recapitalization

Dziobek & Pazarbaşioğlu (1998, 2) argued that systemic bank restructuring aims to improve bank performance, that is, restore solvency and profitability, improve the banking system's capacity to provide financial intermediation between savers and borrowers, and restore public confidence. For corporate level (borrowers of banks), the definition of restructuring is different with banks, but still have the same aims. According to the Oxford Dictionary of Finance and Banking (2005, 353), restructuring is rescheduling a debt, often also involving changes to the internal workings of the borrowing organization, its contracts, or even its products. Restructuring is usually undertaken voluntarily by the borrower, whereas rescheduling is often imposed by the lender to ensure that the debt is serviced.

There are three types for systemic bank restructuring. These are financial restructuring, operational restructuring, and structural as summarize in Table 2.5.

Table 2.5 Instruments of Systemic Bank Restructuring

Type of Instruments	Examples
Financial Immediate financial support to banks	Central bank liquidity support State guarantees State support (bonds, grants, loan, etc.) Private equity and bond injections
Operational Improving governance and efficiency	Additional capital New management More efficiency staffing Twinning Facilitate entry for reputable foreign banks
Structural Restore competition	Closure Merger/spiits and downsizing Assets menagement; debt restructuring Privatization Enterprise restructuring

Market based instruments should be implemented and monitored by a designated leas agency and supported by measures to improve the accounting, legal and regulatory environment.

Source: Dziobek (1998, 9)

From the facts presented in Table 2.5, there are some ways, which were selected by the Bank Support Authority (BSA) in conducting bank restructuring. Each choice of bank restructuring instrument had its implications and consequences. These, among others, were how the speed of the eeonomic recovery will be applied in the field, how big the fiscal expense which must be accounted for by goverument in the recovery, and whether the applied policies can improve performance of national banking.

Banks Restructuring, in fact, is the governmental part of interventions[29] in the efforts at recovering the banking system from systematical risk and to enhance economic recovery as a whole. Financial intervention can be done through two paths, which pass through the central bank and the ministry of finance (MoF). Through the central bank as the monetary policies authority, this gives the facility of window dressing in the form of liquidity-support. Here, the function of the central bank is as lender of the last

[29] The intervention may take several forms: an insolvent bank may be closed; an undercapitalized bank may be nationalized, placed in conservator ship, or given capital assistance while under close supervision.

resort (LOLR), by which it gives temporary bailouts of liquidity requirements on healthy banks during a period of crisis[30]. Through the Ministry of Finance (MOF) as the fiscal policies authority, it issues government bonds like short-term, medium-term, and long-term bond for recapitalizing the banking systems. The government will be ready to allocate budgetary support for interest Installments and initial repayments. In determining the fiscal policies, government must consider the soivency (sustainable budget deficit) and liquidity (ability to repay) via government budget.

Enoch (2000) divided the intervention in structural instruments into two. These are through "closures" or "open bank resolutions." For the open bank resolution, banks remain to continue the business under new rules for the conduct of business with new owners or maybe as part of another institution. In either case, Enoch emphasized that the cost of intervention arises not only at the time of intervention, but as the assets and liabilities of the banks are dealt with.

In practice, financial instruments of government intervention, like bailouts and recapitalizations have invited moral hazard problems between borrowers and creditors. Also in structural instruments, the closures strategy mitigates the moral hazard problems that would arise with any "bail out" of the bank (ibid). Krugman (1998) emphasized that institutions whose liabilities were perceived as having an implicit government guarantee, were essentially unregulated and therefore subject to severe moral hazard problems[31].

[30] Krugman (1999, 6) describe that bank runs played an important role in the unfolding of the crisis, particularly in Indonesia, and a freezing up of the credit system played at least some role in deepening the recession after the crisis hit.

[31] Krugman (1998) also elaborate those moral hazards have linking with the excessive risky lending of these institutions created inflation by assets prices. The overpricing of assets was sustained in part by a sort circular process. This circularity, in turn, can explain both the remarkable severity of the crisis and the apparent vulnerability of the Asian economies top self-fulfilling crisis- which in turn helps us understand the phenomenon of contagion between economies with few visible economic links.

There are major methods of goverument assistance in rcsolving banking problems (see on Table 2.6).

Table 2.6 Major Methods of Government Assistance in Resolving Banking Problems

Methods	Budgetary Classification
Direct Method	
1. Recapitalization	
A. Equity Injections	
Cash	1. Expenditure, capital. 2. Expenditure "restructuring and net lending" 3. Expenditure "equity and nat lending" 4. Expenditure "development expenditure and net lending"
Long-term loan	1. Not recorded in expenditure. 2. Expenditure, net lending. 3. Expenditure, "financial investment."
B. Bond Transfer	
Exchange for bad loans	Principal exclude from expenditure, interest included
Unrequited	1. Neither interest nor principal recorded in expenditure 2. Principal excluded from expenditure, interest included
C. Assumption of (net) Liabilities	1. Loan repayment operation excluded from expenditure 2. Not included in expenditure. 3. Compensation to depositors classified as expenditure. 4. All cash and debt components included in expenditure, "restructuring, and net lending," Write ofi treasury claims (un-cashed checks) recorded as negative revenua. 5. Only interest and debt recorded in expenditure.
2. Short/medium-terms loens	
Standard loan	1. Quasi-fiscal lending by central bank included in expenditure. 2. Excluded from expenditure. 3. Bank debt to central bank assumed by government in expenditure. 4. Operating position of central bank included in fiscal accounts
Placement of deposits	Excluded from expenditure
Indirect Methods	
Tax breaks and lowering regulatory requirements	Not included in the budget
Assumption of enterprise debt	Expenditure, net lending
Equity conversion of non budget public deposits/claims	Excluded from expenditure
Loans or transfer to enterprises to allow servicing/repayment of bank debt	1. Excluded from expenditure. 2. Expenditure, lending or subsidy expenditure

Source: Daniel (1997, 14) adapted from IMF document.

There is a primary distinction between direct and indirect methods of government assistance. Direct methods aim at explicit financial transfer from the government to the troubled banks. In practice, the government, including other institutions, act as the new investors or buyers. Indirect methods are fiscal operations that directly have no

benefits to the troubled banks. These include government servicing of non-performing enterprise debt, that do not lead to higher explicit government outlay such as tax breaks or lower regulatory requirements (Daniel 1997, 13).

According to Daniel (1997), generally, in recapitalization, governments react to the problem of troubled banks by increasing their net worth. There are three ways for government to recapitalize the trouble banks, as follow:

1. Increasing the capital account via capital injection by purchasing new shares or by extending long-term loans to the troubled bank;
2. Issuing public debt to the banks or bond transfer by increasing the asset side of the balance sheet; and
3. Government assumption of bank's (net) liabilities that typically involves the government redeeming or assuming depositors, and possibly other creditors', claims on the bank for government debt or cash.

Furthermore, to determine which banks should receive government assistance in recapitalization, the BSA must make the classification by position of CAR. Theoretically, Enoch, Garcia, and Sundarajan (2001, 70-71) based on Lingves and Lind (1997) grouped the banks into four classes using their capital adequacy ratio (CAR) as shown in Figure 2.9. First, class A banks have CAR above 8% and have solvency and liquidities so that they do not need assistance. Second, class B banks have CAR between 4% and 8%. This group might recover very slowly without assistance. When given assistance, they will be able to recover themselves beyond performance of the A banks. Third, ciass C banks have CAR below 4% but still have the potential to recover when given assistance. Without assistance, such banks cannot

recover. Fourth, class D banks, whose CAR position is precarious and deteriorating swiftly and incisively without the ability to repay.

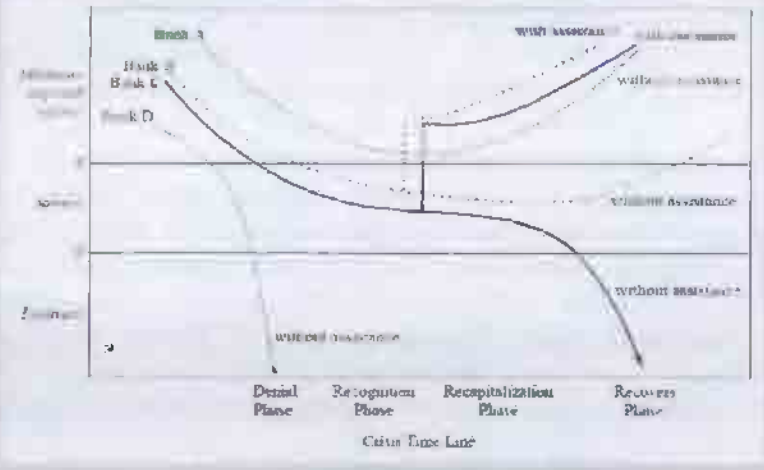

Figure 2.9 Expected Capital Ratios for Four Categories of Banks (CAR, percent)
Source: Enoch, Garcia, and Sundarajan (2001, 72) adapted from Ingves and Lind (1997, 427)

If the bank has a big asset, its systemic risk rises progressively, and the only solution is to recapitalize it. The difficulty that emerges is the choice of whether to recapitalize or give assistance to bank B, if the results of the valuation exercise predict a higher priority without aid as compared to unassisted recovery of bank C. On the other hand, when the **bank restructuring agency** (BRA) assesses the bank to be "over-banked" and 'systematical insignificant', it could call for liquidation (of both B & C). When BRA has a notion that the bank is 'systematical important' and requires to be taken care of under banking restructure competition, it should aid stronger bank B and close bank C. When the assessments indicate that both banks B and C are still needed, then the BRA may support both. If budget resources are constrained, the BRA can invite the private sector or other institutions, even foreign investors, to conduct investments.

2.5 Summary of Literature Review on Banks Recapitalization

In order for an economic system hit by a banking crisis to be restored to its normal function, the banking system must be recapitalized (see Kobayashi 2003). This is because banks are thought to be central to business activity (Dell'Ariccia, Detragiache, and Rajan 2005, 3). The key goal of banks recapitalization is strengthening and increasing the capital of the banking sector, so that it can run its functions of ensuring the banks have enough capital, liquidity, and incentives (see Honohan 2001) as enhanced part of economic recovery by supporting the real sector and an efficient national payment system. In general, conducting the restructuring of the financial and operational systems of the banks, called banking resolution, continues alongside the recapitalization.

Claessens, Klingebiel, and Laeven (2001) found empirically that a package of specific resolution measures could help accelerate the recovery from the crisis with significant fiscal cost. From the point of view of fiscal cost, in Japan, banks recapitalization by fiscal measures is optimal, but implies that Japan's protracted recession and deflation may have been caused by an inappropriate policy response to bank insolvency (Kobayashi 2003; Diamond & Rajan 2002). Daniels (1997) verified that subsidizing the banking sector, just like any other sector of the economy is a function of the budget.

In a state of crisis, generally, governments do not have enough cash/money to support the sustenance of the banking system from the crisis, therefore in banks recapitalization; the government can injected the new banking capital by issuing the government bonds (see Andrews 2003). Dziobek (1988) and Dziobek & Pazarbaşioğlu

(1997) elucidate that the market-based instruments to resolve systemic banking problems are addressed while appropriate incentives ensure long-term viability. Sharing the cost of bank restructuring between the state, the banks, and to a lesser extent with depositors is an important principle of efficient bank restructuring. Diamond (2001) emphasized that providing subsidized recapitalization of banks with relationship-based loan can be a good policy. In addition, Bonin and Leaven (2000) state that banks may play a role in financial restructuring of their clients. It means that banks recapitalization without an accompanying debtors' restructuring will be without effect.

Montgomery and Shimizutani (2005) found that capital injections are more effective for international banks than for domestic banks. They examined the effectiveness of banks recapitalization policies by identifying the goal of capital injection plan in Japan. These were: (i) to increase the CAR, (ii) to increase lending in particular to SMEs, (iii) to increase write-offs of NPLs, and (iv) to encourage restructuring.

Among these research approaches listed in Table 2.7, the author summarize that:

1. Banking performance have played a role in financial and operational restructuring by enhancing economic recovery through support to the real sector and an efficient national payment system;
2. Capital injections by issuing government bonds are more reasonable than cash support;
3. Sharing the cost of bank restructuring between the state, the banks, and to a lesser extent with depositors is an important principle of effieient bank restructuring;
4. Banking recapitalization provides one of the solutions to restore the normal banking function as intermediaries in an economic system hit by banking crisis;

5. The success of banks recapitaiization will be determined by the policy of government intervention in electing which banks to be given asslstance.

Based on the summaries and the approaches of the researches above, especially on performance of banks and banks recapitalization, this researcher intends to modify these approaches to become the basis of the study. Specifically, the study will examine the performance of banks and effectiveness the banks recapitalization to the real sector lending.

Table 2.7 The Related Discussion of the Banking Restructuring and/or Recapitalization

Authors, year, title of paper/research	Approach	Description	Findings
Daniel (1997) "Fiscal Aspects of Bank **Restructuring**"	Fiscal aspects based on primary balance improvement required to maintain debt sustainability.	The paper examines the fiscal aspects of such assistance: rationale, design criteria, methods, and macroeconomic implications.	Subsidizing the banking sector, just like any other sector of economy, is a function of the budget. Tighter fiscal policy may also be needed to compensate for the inability to achieve, and undesirability of, tight monetary policy.
Dziobek & Pazarbaşioğlu (1997) " Lesson from Systemic Bank **Restructuring**: A Survey of 24 Countries"	The samples countries were ranked by relative progress in resolving banking sector problems.	Examines the effectiveness of institutional and regulatory measures, assesses the impact of accompanying macroeconomic policies, and particular **restructuring** instruments contributed to success. The systemic is defined as a situation where affected banks which, in aggregate, held at least 20% of the total deposits of the banking system.	Successful bank **restructuring** implies a comprehensive approach addressing not only the immediate stock and flow problems of weak and insolvent banks but also correcting shortcomings in the accounting, legal, and regulatory framework while improving supervision and compliance.
Dziobek (1998) "Market-Based Policy Instruments for Systemic Bank **Restructuring**"	The surveys and assesses market based policy instruments employed to overcome systemic bank problems.	Considerations regarding the design and mix of instruments as well as cost sharing arrangements are show to be key aspects of effective bank **restructuring**.	Effective use of market-based instruments to resolve systemic banking system addressed while appropriate incentives ensure long-term viability. Sharing the cost of bank **restructuring** between the state, the banks, and to a lesser extent with depositors is also an important principle of efficient bank **restructuring**.
Bonin and Leven (2000) "Can Banks Promote Enterprise **Restructuring**?: Evidence from a Polish Bank's Experience"	Based on personal interviews and statistical data to evaluate the banking performance in enhance promoting financial and operational **restructuring**.	Financial sectors reforms focusing on a bank-led enterprise-restructuring plan that linked directly bank privatization and **recapitalization** to bad-debt workouts.	Banks may play a role in financial **restructuring** of their clients. Moreover, for state-owned banks are particularly vulnerable to incentive problems when dealing with large state-owned enterprises that may be too big or too political to fail.
Diamond (2001) "Should Japanese Banks Be **Recapitalized**?"	The level of bank capital then has real effects on its borrower's access to credit.	A subsidized recapitalization of banks with relationship-based loans can be a good policy. The size of **recapitalization** is critical, because providing too small an amount of subsidized capital can be worse than providing no capital.	Providing subsidized capital to banks without relationship-based loans is never good policy.

Table 2.8 Continued

Authors, year, title of paper/research	Approach	Description	Findings
Claessens, Klingebiel, and Laeven (2001) "Financial Restructuring in Banking and Corporate Sector Crises: What Policies to Pursue?"	Using data for 687 corporations from eight crisis countries, the author identify government policies that affect the depth of a crisis and ease, sustainability recovery, and analyze their fiscal cost.	A consistent framework – including sufficient resources for loss-absorption and private agents facing the right framework of sticks and carrots – is the although often missing key to successful bank and corporate restructuring. The sustainability of **restructuring** calls for deeper structural reforms, which often requires dealing with political economy factors up-front.	They find empirically that a package of specific resolution measures can help accelerate the **recovery** from crisis with significant fiscal cost.
Enoch, Garcia, and Sundarajan (2001) "Recapitalizing Banks with Public Funds"	**Recapitalization** based on capital injections by public funds.	**Recapitalization** approaches have varied in the different mixes on direct capital injections and assets purchases and rehabilitation that countries choose.	The choice of an appropriate mix is critical to minimizing the expected present value of government outlays net of recoveries.
Honohan (2001) "Recapitalizing Banking Systems: Implications for Incentives and Fiscal and Monetary Policy"	**Recapitalizing** banking system to ensuring the bank has enough capital, liquidity, and Incentives.	To help restructure a failed banking system, there are also consequences for the incentive structure facing the new bank management, for government's budget, and for monetary stability.	To apparent conflicts between new bank management, budget, and monetary stability can be resolve by the suitable design of financial instruments and appropriate allocation of responsibility between different arms of government.
Diamond & Rajan (2002) "Bank Bailouts and Aggregate Liquidity"	Using possibility that natural sequence of bailouts (weakest and most illiquid banks first) with the framework relationship between entrepreneurs with banks.	Governments some times bail out banks by **recapitalizing** them. Author considers a world with **entrepreneurs**, **investor**, and lenders.	Bailout decisions that increase the excess demand for liquidity can cause further insolvencies, and indeed, a meltdown of entire system, where contagion is spread via the common pool of liquidity.
Andrews (2003) " Issuing Government Bonds to Finance Bank Recapitalization and Restructuring: Design Factors that Affect Banks' Financial Performance"	Key elements of a good bond design from perspective of the **recapitalized** banks' financial performance.	Many conflicting considerations affect the design of the bonds used to pay for public sector investment in bank equity or purchase of significant risk, laying the foundation for future banking sector problems.	Banks with risk exposure imbedded in their holdings of **recapitalization bonds** are likely to suffer losses leading to the need for subsequent intervention and a renewed attempt as **restructuring**.

Table 2.8 Continued

Authors, year, title of paper/research	Approach	Description	Findings
Kobayashi (2003) "Debt Deflation and Bank **Recapitalization**"	Used Diamond-Rajan Model (2001) based on liquidity risk, liquidity creation, and financial fragility.	Effects of policy responses to bank insolvency, based on moral hazard and premature liquidation of bank assets model, with assume that insolvency of the banking system is caused by an exogenous macroeconomic shock that destroys a portion of banks' assets.	Bank **recapitalization** by fiscal measures is optimal, but implies that Japan's protracted recession and deflation may have caused by an inappropriate policy response to bank insolvency.
Peura & Keppo (2004) "Optimal Bank Capital with Costly Recapitalization"	Bank accounting returns data, and bank capital ratio.	Optimal bank capital choice as dynamic trade off between the opportunity cost of equity, the loss of franchise value following a regulatory minimum capital violation, and the **cost** of **recapitalization.**	Replicate a significant amount of the cross-sectional variation in bank capital ratios by relating to differences in return volatility.
Montgomery and Shimizutani (2005) "The Effectiveness of Bank **Recapitalization** in Japan"	They are finding using OLS (ordinary least square) on a panel of individual bank data for International and domestic banks.	The study examines the effectiveness of bank **recapitalization** policies by identify goal of capital injection plan in Japan: (i) to increase the CAR, (ii) to increase lending, in particular to SMEs, (iii) to increase write-offs of NPLs, and (iv) to encourage **restructuring.**	Capital injections are more effective for international banks than for domestic banks. They suggest that the receipt of injected capital strengthens the capital position of both international and regional banks.
Williams and Nguyen (2005) "Financial Liberalisation, Crisis, and **Restructuring**: A Comparative Study of Bank Performance and Bank Governance in South East Asia"	Identify that bank governance in terms of bank ownership and measure bank performance via profit efficiency, technical change, and productivity for a sample SE Asian Banks from 1990 to 2003.	The period was characterized by financial deregolation in circumstance on Asian crisis and bank **restructuring** programs. Tend to support bank privatization and the repeal of the state ownership on economic grounds. For domestic private-owned banks, the challenge is improving bank efficiency. The process of bank restructuring logically concludes with bank privatization; the return of banking system assets to private hands.	Bank privatization has raised bank performance to levels in excess of pre-privatization bank performence. Bank privatization was associated with superior profit efficiency performance compared with others types of bank governance. The author evidence suggests domestic private-owned banks should target improvements in profit efficiency if they expect to compete with other institutions in SE Asia.

3. THE EVOLUTION OF THE INDONESIAN BANKING: FROM THE CRISIS TO THE BANKS RECAPITALIZATION

3.1 Macroeconomic Background and Genesis of the Crisis

Indonesian economy has had adequate performance before the crisis happened in 1997-1998. The crisis brought Indonesia into economic weakness and loss of trust from the world community. In comprehending how this happened and the evolution of the economic recovery, the discussion will focus on the situation of the macroeconomic structure (i.e. the weaknesses of the financial system and structural vulnerability), the genesis of the crisis, and the chronology of the crisis that knocked over Indonesia, as a historical lesson.

3.1.1 The Macroeconomic Background

The macroeconomic fundamentals were appropriate and strong before the crisis. This condition was shown through the macroeconomic indicators of Indonesia in Table 3.1. From 1994-1996, some of the major macroeconomic indicators showed strong characteristics like real GDP, fiscal balances was in surplus, inflation under 10% per year, and the rising credit growth. The annual GDP reflected the happening of good investment climate, the fiscal balance reflected that the Indonesian government could repay the external debt, and inflation under 10% reflected that the Indonesian government could control the rate of inflation. Unfortunately, some economic indicators identified behaviors that indicated vulnerability. These included the large capital inflows and the associated foreign debt, the fragile state of the banking system that had links to government problems, and a creeping return to more interventionist

policies that restrained the free operations of the markets and created rent-earning opportunities for the well-connected (IEO-IMF 2003, 13). Others were the currency crisis of July 1997, the aftermath, and the vulnerability becoming the trigger for the heavy economic crisis. All these macroeconomic indicators became negative, inflation rose until 77.54%, and IDR against USD reached IDR7.850 at the end of the period.

Table 3.1 Macroeconomic Indicator of Indonesia 1994-2004

INDICATORS	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003*	2004**
Real GDP growth (%)	7.50	8.20	7.80	4.70	-13.10	0.80	4.90	3.40			
Real private consumption (%)	7.80	12.60	9.70	7.60	-6.20	4.60	1.60	4.40			
Real fixed investment (%)	13.80	14.00	14.60	6.60	-33.80	-16.20	16.70	7.70			
Real private fixed investment (%)	13.80	18.90	16.60	6.40	-33.00	-40.30					
Production Component (annual Growth)											
Agriculture	1.00	-1.30	2.70	1.70	-1.30	2.70	1.90	1.70	3.20	4.30	4.10
Mining	2.10	-2.80	-2.40	2.30	-2.80	-2.40	5.50	1.30	1.00	-0.90	-4.60
Manufacturing	5.30	-11.40	3.80	6.20	-11.40	3.80	6.00	3.10	5.30	5.30	6.20
Electricity, gas, water	12.40	3.00	8.30	8.00	3.00	8.30	7.80	8.20	6.90	6.90	5.90
Building	7.40	-36.40	-0.60	8.80	-36.40	-0.80	5.60	4.40	5.50	6.70	8.20
Trade, hotel and restaurant	5.60	18.20	0.10	6.70	-18.20	0.10	5.70	3.70	3.90	6.30	5.80
Transportation and Communication	7.00	-15.10	-0.80	5.70	-15.10	-0.80	8.60	7.80	8.40	11.60	12.70
Finance, rental, and company services	5.90	-26.60	-7.50	9.40	-26.60	-7.50	4.60	5.40	5.40	7.80	7.70
Services	3.60	-3.80	1.90	4.70	-3.80	1.90	2.30	3.10	3.60	3.90	4.90
Inflation (y.oy. %)	9.60	9.00	6.00	2.20	77.54	1.90	9.35	12.55	10.03	5.05	6.40
Base money (end-period, %)	22.00	34.00	13.90	6.80	32.50	35.50	22.80	2.10	5.97	14.25	10.20
Broad money (M1, ond-period, %)				22.20	29.20	23.20	30.10	9.59	7.99	16.60	13.41
Broad money (M2, end-period, %)	20.20	27.60	29.80	23.20	52.30	11.90	15.60	12.99	4.72	8.12	8.14
Current account balance (US$, billion)	-2.80	-6.40	-7.70	-4.90	4.10	5.80	8.00	6.90	5.50	7.10	5.60
Export growth (US$, %)	8.80	13.40	9.70	7.30	-8.60	-0.40	27.70	-16.10			
Import growth (US$, %)	12.90	27.00	5.70	-2.90	-34.40	-12.20	39.60	-17.50			
External riebt (US$ billion, end-period)	100.90	113.70	121.10	146.60	159.80	158.40	149.60	139.80			
International raserves (US$ b end-period)	12.10	13.70	18.30	16.60	22.70	26.40	28.50	27.20			
Exchange rate (Rp/US$, end-period)	2,215	2,330	2,407	4,673	8,065	7,136	9,643	10,452	8,985	8,507	9,336
Real effective exchange rate	100.20	100.00	103.90	82.10	65.80	72.70	62.90	86.30			
Central government batanca (% of GDP)	0.20	0.90	1.10	-1.30	-2.30	-1.50	-1.10	-3.70			

Sources: BI database
1. Calondar years, unless noted otherwise.

2. Fiscal years.

3. Foreign currency stocks measured at constant exchange rates to avoid valuation changes.

4. End-period; average of 1990 = 100.

5. Fiscal years. Fiscal year 2000 covers nine months from April to December, as Indonesia's fiscal year changed from April–March to a calenriar year in April 2000. The fiscal nalance excludes privatization proceeds and includes the interest rate cost of bank restructuring.

3.1.2 Geuesis of thc Crisis

The erisis that knocked Indonesia over was triggered by the contagion-effect[32], which started from the Thai Bath that was floated and depreciated by 15-20 percent on July 2, 1997. This directly led to pressure on the Indonesian Rupiah (IDR). Beginning from July 11, 1997, the Bank Indonesia (i.e. the Central Bank of Indonesia) made efforts to defend the Rupiah from speculative attack by intervening in the market by widening the intervention bands from 8% to 12%. Unfortunately, intensive market pressure forced Bank Indonesia to abolish its intervention, causing the Rupiah to free-float on August 14, 1997. This contagion-effect swiftly encompassed the whole region and suecessively devalued the domestic currency exchange rates against the US dollar. For example, the currency of Thailand was depreciated by 87.09%, Malaysia by 55.43%, Korea by 83.04%, Philippines by 51.37%, and Indonesia, the most affected, by 231% from July 2, 1997 up to February 16, 1998 (Kaushik Basu 2003, 888).

In March 1998, the exchange rate of the IDR had fallen to around IDR11.000 for US$1.00 (compared to IDR2.431 for US$1.00 in June 1997). Even from June of 1997, the depreciation of the Rupiah increased until it reached IDR15.250 per dollar. It was interesting to notice the depreciation of the Rupiah's value to the dollar because the currency was self-supporting. Some matters that enlarged the problem were the value of the Rupiah, which was overvalued to the dollar before the crisis (Tarmidi 1998, 4) and the accumulated amount of overseas debts, governmental debt and private sector debt, which had fallen or would fall due for payment. The difficulties here were with the overseas debt structure. The majority of the debts were short-term loans denominated in U.S. dollars or with liability dollarization. The sharp real currency

[32] Contagion-effect is "excess co-movement" in financial and economic variables across countries in response to a common shock (Kaminsky, Reinhart, and Végh 2003, 55).

depreciation created a situation where those who had borrowed in U.S. dollars were unable to repay, because of the fact that corporate earnings were in local currency but their debts were in U.S. dollars (Calvo and Mishkin 2003, 105). Of course, this made the corporate world in Indonesia very fragile with the threat of bankruptcy and the possibility of failure to repay their liabilities. The typical episode began with a lending boom and an appreciation of the real exchange rate. This was followed by a real depreciation which coincided with widespread defaults by the domestic private sector on un-hedged foreign-currency-denominated debt (Scheneider & Tornell 2004, 883).

The financial turbulence, which knocked over emerging markets in the East Asian region, could initially be seen from the devaluation of Thai Bath on 2 July 1997. The contagion effect swiftly covered the region, which successively dashed down domestic currency exchange rates to the US dollar (Simatupang 2004).

The contagion effect is a reflection of the open financial market as an integrated part of the new global economic structure. By embracing the open financial system in its globalization arena, the economic relations of strong nations will be able to influence economies of regional blocs. Thus, what happened in the East Asian area was the contagion effect in an integrated worldwide economy. The currency exchange rates fell so dramatically, resulting in the occurrence of a monetary crisis, which later on became an economic crisis for the area of emerging markets in Asia.

After 1997, Indonesia fell into a deep crisis, when a period of monetary crisis led to an economic crisis, banking crisis, and even a confidence crisis. It started with the downfall of the Thai Bath on 2 July of 1997. Then, it crept into the Philippines; to the regional markets and the latest to be hit was Indonesia. The contagion effect forced the Rupiah to depress heavily and, as a result, on 14 August of 1997, the Bank of

Indonesia was forced to relcase a free-floating exchange rate mechanism for the Rupiah. This was part of a tight monetary policy, especially the IDR to the USD, and that meant that Indonesia left the system of managed, floating exchange rate, which was in use during the time and had been Indonesia's foreign exchange regime since the devaluation of October 1978. Figure 3.1 shows the trend in exchange rates with the volatility of IDR against USD and what the related major events accompanying them. Moreover, after the free-floating exchange rate, emerged the bearish view of the domestic economy, with the lack of confidence in the banking system and leading to the withdrawal of foreign funds and capital flight (Prasetiantono, et.al. 2000, 49). In Figure 3.2, we show the flow of funds during the crisis of 1997-1998 when the capital flight commenced on August 14, 1997.

Besides the capital flight, the other effects of tight monetary policy dried up liquidity in the money market. This matter showed fantastic increases in the inter-bank over-night rates from over 100% to about 300%. At the same time, BI raised the SBI (Bank Indonesia Certificates) rates for tenors of 1 and 3 months to 30% and 28%, and all of BI facilities, like discount window facilities, SBI Repos, and Bank Indonesia Liquidity Credit (KLBI), were temporarily terminated. Nevertheless, on the other hand, BI remained to execute its function as the lender of last resort (LOLR), and giving aid or liquidities assistance (BLBI) to stabilize the economy and to recover the society's confidence in the national banking system.

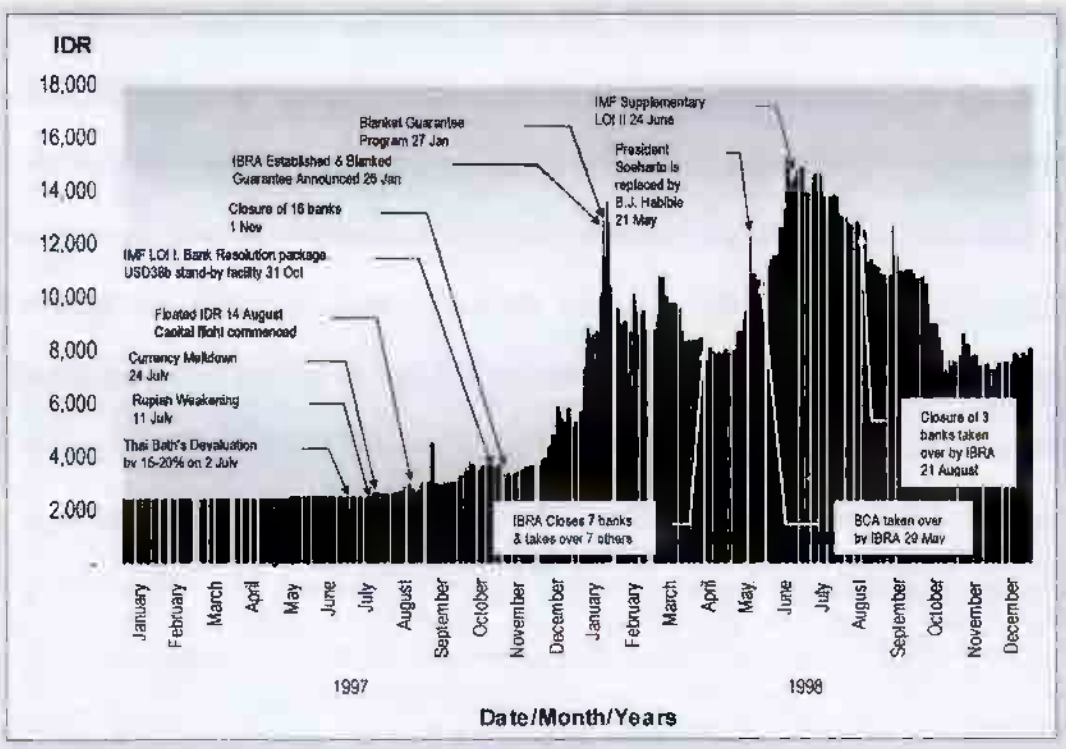

Figure 3.1 Volatility of IDR against USD 1997-1998 and Related Events
Source: Bank Indonesia

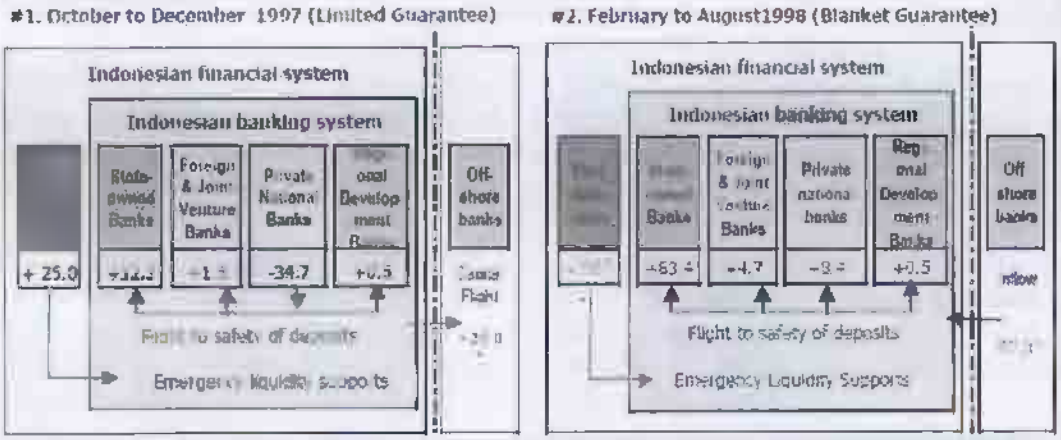

Figure 3.2 Flows of Funds during the Crisis 1997-1998
Source: Adapted from Batunanggar (2002, 10)

REMARK

- Signs indicate net movements of funds in the banking system: "+ "as inflows; and "-"as outflows.
- The exchange rate effect (fDR depreciation to USD) was excluded by using the rupiah (fDR) exchange rate to US dollar (USD) of Rp 2,559 in July 1997 as a constent rate; while the rupiah deposits were not adjusted.
- The capital flight (November to December 1997) was reflected in a decrease of totaf deposits while in contrast the capitef inflow (February to August 1998) was reflected in an increase cf totaf deposits.
- 83% of BI's liquidity support (February to August 1998) was provided to 4 highly insolvent private national banks and to Bank Exim (stete-owned) which had a foreign exchenge transaction loss of Rp20 trillion.

Mostly, to stem the capital flight acceleration, the deposits rate of national banks rose higher to 68% with the consequence of a negative-spread. It meant that the third party fund rates were higher than the lending rates. Although, during October 1997, the BI decreased the SBI rates three times (by 3%, 2%, and 2%) and the Ministry of Finance (MOF) announced ten concrete steps but, in fact, it was unable to retain the occurrence of bank rushes. On November 1, 1997, the government revoked the operational licenses of 16 banks in conformity with IMF directives. Unfortunately, this liquidation caused the decline of confidence in national banking, not only from domestic customers but also from overseas parties. This situation turned to become the trigger of the occurrence of continued bank rushes, where IDR12 trillion (about USD2.7 billion) of IDR deposits shifted from small private banks to state owned banks, large private banks, and foreign banks, and about USD2 billion of USD funds left the banking system entirely (see IEO-IMF 2003, 75).

On the other hand, according to Lindgren et.al (1999, 1), financial and corporate sector weaknesses combined with the macroeconomic vulnerabilities to spark the crisis. Linking the crisis with the macroeconomic indicators, it was argued that Indonesia's fundamental economic problems since 1990 had been due to large amounts of un-hedged offshore borrowing and dollarization (Nasution 1997; Tarmidi 1998, 5; and Batunanggar 2002, 6). The currency depreciation worsened the real burden of external debt faced by Indonesian government, financial institutions, and firm that heavily borrowed in foreign currency. During the five years before the crisis of 1997, foreign currency debts of the non-bank private sector increased from US$28.2 billion in 1992 to US$78.1 billion in 1997, exceeding the government offshore loan borrowing of USD$59.9 billion in 1997, which was 38.98% lower for the non-bank private sector. According to Suta and Musa (2003, 203), the economy of

Indonesia had experienced recession by the end of 1996. This occurred because of (i) the short-range nature of big capital streams which entered the economy of Indonesia and made it easy to be affected and easy to experience the situation of overheating; (ii) domestic interest rates and inflation started to mount; and (iii) the deficit of transaction balance grew bigger and reached 3.4% of GDP. It was not surprising that the crisis that knocked over Indonesia came from the problem of un-hedged offshore borrowing. It broke down the economy of Indonesia and was noted as one of the ugly crises that happened in East Asia.

3.2 The Indouesian Banking Evolution

Indonesian banking history from time to time has always been developing. Therefore, banking has been witnessing internal and external changes. The internal changes come from the acceleration of information technology, systems and procedure changes, deregulation and law changes from the central bank, and changes in the requirements of human resources capability in banking industry. In addition, the external changes came from customer and debtor expectations for various products that increase their utility function, the effect of the international banking system development that was promoted by Bank Settlement for International (BIS), and called the Basel Principles. Again, the need for globalization of transaction without borders of geography and time – social, economic, law, and political conditions, real sector conditions – and confidential rating from the international banking society in Indonesia.

In general, Indonesia's banking history is divided into six terms or periods as follows:

1. Period 1 – the Rehabilitation Period (1967-1973): Early Stages of Development as the Dutch colonial banking era gave to the national banking regime with high

priority given to the restoration of economic stability through measures such as the new banking law of 1967 and through restructuring of banking system;

2. Period II – the Ceiling Period (1973-1983): There are three major instruments of monetary policy that has been implemented.
3. Period III – the Growth Period (1983-1988): The growth period following the banking deregulation of 1 June 1983 that removed the interest rate ceilings;
4. Period IV – the Aeceleration and Deregulation Period (1988- July 2, 1997): The acceleration period following the impact of extensive bank reforms in October 1988 and consolidation in which prudential banking principles were introduced including capital adequacy and bank ratings;
5. Period V- the Crisis and Restructuring Period (July 2, 1997/1998 – September 2003): The crisis came from the contagion effect that started from the monetary crisis in emerging markets in East Asian Countries.
6. Period VI – the Rehabilitation Post –Crisis Period (October 2003 – Present): The national banking rehabilitation post-crisis period, marked by the restructuring of Indonesian Banks based on Presidential Instruction 5/2003 issued on September 15, 2003.

3.2.1 Period I (1967-1973)

The control of the Indonesian banking system was based on the law of 1967 that was passed by the government of President Soeharto. The government had a high priority given to the restoration of economic stability, particularly, for the operation of a more stable inflation rate, improvement of exports and availability of enough clothing products. At the time, the banking services were limited to supporting Indonesian development program. According to the Law of 1967, the banking system consisted of

four main components, (i.e. commercial banks, development banks, savings banks and small-scale credit banks), all of them under the control, supervision and guidance of the central bank known as the Bank Indonesia. The central bank was established in 1968 by Law No. 13. In early 1970, the government discontinued giving permission for opening new private and foreign banks because the number of banks at that moment had reached 135. At the end of 1973, the number of banks had redueed to 130 with 1,531 bank offices.

From 1967 to 1973, the Indonesian banking system grew both in size, assets and sophistication under a regime of extensive and restrictive controls by Bank Indonesia. The five state-owned commercial banks handled most banking business; each of them was directed to deal with activities pertaining to specific priority sectors of the economy on favourable terms, and government institutions and state-owned enterprises could not deposit funds with the state banks (Lasserre & Garg 2004, 3). During this period, the banking system was characterized by financial repression.

3.2.2 Period II (1973-1983)

In this period, three major instruments of monetary policy were implemented. These were: (i) the systems of credit ceiling for individual banks, with sub-ceiling for various loan categories; (ii) the maintenance, and even extension, of rediscount or refinancing mechanism to allocate credit and subsidies for priority sectors in the economy; and (iii) control over interest rates charged by state-owned banks, though private banks were free to set their own interest rates. Djiwandono (1997, 340) traced that these policies exerted a strong influence on the evolution of the banking system, leading to the build-up of excess reserves and producing some undesirable side-effects.

Ever since the late 1980s, the IMF, The World Bank and the leading economies of the world had lobbied for the opening up of economies around the world. To reach the target of the Indonesian government to sustain the efficacy of the first phase of the five-year development plan, the government in 1983 began to liberalize the banking sector.

3.2.3 Period III (1983-1988)

The process of liberalization of the banking system began on 1 June 1983 with the banking deregulation and the liberalization of interest rates, the giving of authority to state-owned banks to fix their interest rates and increase the mobilization of funds from the public, the elimination of credit ceilings to commercial banking, and the introduction of indirect monetary instruments. As a result, real interest rates became positive and time deposits increased dramatically, the ratio of M2 to GDP rose from 18 percent in 1982 to 30 percent by 1988, and the share of private domestic banks in total bank assets increased from 12 percent to 26 percent over the same period (Pangestu & Habir 2002, 4-5). The Central Bank, Bank Indonesia, in 1984 started to issue the Bank Indonesia Certificate (SBI) and since 1985 issued the Money Market Marketable Securities (SBPU) and discount facility.

Since the beginning of the deregulation from 1983 to 1988, the number of banks decreased from 130 to 124, but the bank offices increased from 1,531 to 2,044 (see Table 3.2).

Table 3.2 Growth in Number of Banks and Bank Offices

Year	Number of Banks	Bank Offices
1983	130	1.531
1984	129	1.598
1985	129	1.665
1986	125	1.751
1987	125	1.868
1988	124	2.044

Sources: Bank Indonesia and Binhadi in Simorangkir (2002, 4)

3.2.4 Period IV (1988 – August 1997)

A package of deregulatory measures passed on October 27, 1988 included a reduction in the reserves requirement from 15 percent to 2 percent, the reopening of licensing for new private banks and foreign joint-venture banks, and the granting of permission to state-owned firms to deposit 50 percent of their short-term funds with private banks, instead of only with state-owned banks (Montgomery 1997, 11). Between 1988 and 1991, the number of new banks entering the system increased from 124 to 192.

Bank Indonesia introduced an act into the deregulations the following year that eliminated the need for Bank Indonesia's approval for medium and long term loans and removed the ceiling on offshore loans. Furthermore, Bank Indonesia also enacted a restriction on bank lending to related parties, a limit on net foreign exchange open positions and limits on equity activities of banks.

Since the deregulations were implemented, the banking sector has grown rapidly in total assets as well as in terms of the number of banks. Particularly, the number of banks increased substantially, from 192 in 1991 to 240 in 1994 (see Table 3.3). The conditions in the deregulations of the banking system eased the requirements and the limitations on equity to open new banks. The local conglomerates anticipated this opportunity and took advantage by establishing their own new banks. In addition,

Enoch et.al (2001, 23) argued that while the doors were wide open for new banks to enter the market, no proper exit mechanism was set up for banks that failed to operate profitably.

Aecording to Nasution (1997), Tarmidi (1998, 5) and Batunanggar (2002, 6), one of Indonesia's fundamental economic problems since 1990 had been the large amount of un-hedged offshore borrowing by the private sector. During the five years before the crisis of 1997, foreign currency debts of the non-bank private sector increased from US$28.2 billion in 1992 to US$78.1 billion in 1997, exceeding the government offshore loan borrowing of USD$59.9 billion in 1997 which was 38.98% lower than that of the non-bank private seetor.

Table 3.3 Indonesia: Composition of the Banking Sector, 1991-1997

	Group of Banks	1991	1992	1993	1994	1995	1996	1997
I.	**Commercial Banks**							
	Number of Banks	192	208	234	240	240	238	222
	Number of Bank Offices	5,358	5,557	5,838	6,091	6,855	NA	7,570
	State-owned Banks							
	Number of Banks	7	7	7	7	7	7	7
	Number of Bank Offices	1,395	1,434	1,455	1,490	1,635	NA	1,772
	Private National Banks							
	Number of Banks	129	144	161	166	165	160	144
	Number of Bank Offices	3,260	3,385	3,601	3,806	4,160	NA	4,887
	Joint-venture Banks							
	Number of Banks	19	20	29	30	31	34	34
	Number of Bank Offices	24	31	45	50	52	NA	58
	Foreign Banks							
	Number of Banks	10	10	10	10	10	10	10
	Number of Bank Offices	99	94	98	100	103	NA	41
	Negional Oevelopment Banks							
	Number of Banks	27	27	27	27	27	27	27
	Number of Bank Offices	580	613	639	845	705	NA	812
II	**Total Assate Banking System**	154.2	179.9	215.0	249.7	310.1	NA	447.4
	State-owned Banks	76.0	93.3	100.6	104.5	122.6	NA	152.6
	Private National Banks	58.5	66.3	88.2	113.8	147.5	NA	237.9
	Joint-venturs Banks	5.6	7.5	11.8	14.3	17.9	NA	NA
	Foreign Banks	7.4	7.5	7.9	9.2	12.3	NA	NA
	Regional Development Banks	4.7	5.3	6.5	7.9	9.8	NA	12.7

Source: Bank Indonesia, Report for the Financial Year 91/92, 93/94, 94/95, and 96/97

According to Suta and Musa (2003, 203), the economy of Indonesia had experienced recession by the end of year 1996. This was because: (i) foreign investors started to withdraw short-range investments as a result of the by banking crisis in Mexico. Before this, the short-range capital streams that entered Indonesia were very big and made the economy of Indonesia easily affected by the situation of overheating; (ii) domestic interest rates and inflation started to mount; and (iii) the deficit of transactions balance grew bigger and bigger until it was about 3.4% of GDP.

3.2.5 Period V (August 1997/December 1998 – September 2003)

This period is the period of Indonesia in deep crisis. It was a period of monetary crisis which became an economic crisis, a banking crisis, and even trust crisis. It started with the downfall of the Thal Bath Thailand on 2 July of 1997. Later, it crept into the Philippines, to other regional markets and finally into Indonesia. This contagion effect depressed the Indonesian Rupiah heavily and, as a result, on 14 August of 1997, the Bank of Indonesia was forced to release a free-floating Rupiah exchange rate to other foreign currencies, especially the USD. The central bank left the system of managed floating which had been Indonesia's foreign exchange regime since the devaluation of October 1978.

The effect of the monetary crisis that occurred and the existence of speculator attacks on the rupiah since July 1997, finally dragged the brittle banking sector to systematical risk, and progressively made worse the economy of Indonesia. To overcome the crisis in the field of banking, essentially, involved bank restructuring which consists of two elements: (i) financial restructuring including capital injection and loan restructuring; and (ii) operational restructuring comprising the improvements in a bank's internal

organization such as its operational efficiency, governance, risk management and control (Batunanggar 2002, 14).

As for changes in structure, Table 3.4 (from 1997 until 2004) shows that during banking crisis, appropriate interventions can lead to recovery of the economy. From November 1997 to the year 2002, there were interventions by the monetary authorities (i.e. Bank Indonesia) that enhanced the banking restructuring process[33]. These were:

Table 3.4 Growtb of Nnmber of Banks and Banks Office

	Group of Banks	1007	1998	1999	2000	2001	2002	2003	2004*)
I.	**Commercial Banks**								
	Number of Banks	222	208	164	151	145	141	138	133
	Number of Bank Offices	7,570	7,861	7,113	6,509	6,765	7,001	7,730	7,939
	State-owned Banks								
	Number of Banks	7	7	5	5	5	5	5	5
	Number of Bank Offices	1,772	1,875	1,853	1,736	1,807	1,885	2,072	2,112
	Private Fcrex Banks								
	Number of Banks	77	71	47	38	38	36	36	34
	Number of Bank Offices	4,158	4,157	3,798	3,302	3,432	3,565	3,829	3,947
	Private Non Forex Banks								
	Number of Bank	87	59	45	43	42	40	40	38
	Number of Bank Offices	729	701	533	535	556	528	700	688
	Joint-venture Banks								
	Number of Banks	34	34	30	29	24	24	20	19
	Number of Bank Offices	58	65	57	57	53	53	57	59
	Foreign Banks								
	Number of Banks	10	10	10	10	10	10	11	11
	Number of Bank Offices	41	41	47	53	60	61	69	69
	Regional Oevelopment Banks								
	Number of Banks	27	27	27	26	26	26	25	26
	Number of Bank Offices	812	822	825	826	857	909	1,003	1,064
II	**Rural Banks**	7,585	7,607	7,772	7,764	7,703	7,571	7,479	NA
	BKD (Rural Credit Institution)	5,345	5,345	5,345	5,345	5,345	5,345	8,345	NA
	Non BKD	2,240	2,262	2,427	2,419	2,358	2,228	2,134	NA
fII	**Total Assets Banking System**	715.2	895.5	1,006.7	1,030.5	1,099.7	1,112.2	1,213.5	1,272..1

*) Bank Indonesia Revoked Operating Licenses for PT Bank Asiatic and PT Bank Dagang Bali on April 2, 2004 and Froze that of PT Bank Global International Tbk. on December 14, 2004.

Source: Bank Indonesia Annual Report: 1998/1999, 2000, 2001, 2002, 2003, 2004, and various Press Release of BI.

[33] For complete data, see the Bank Indonesia Annual Report 1998/99, 2000, 2001, 2002 and 2003, compared with Suta & Musa (2003, 209) and Batunangar (2002, 36).

1. On November 1, 1997, the first round closures of 16 small banks, at the same time BI tolerating 34 other insolvent banks. On the closure process, the government provided limited deposit guarantees up to IDR20 million, accounting for 80% of depositors' funds but only 20% of the total deposits of the closed banks.
2. On January 15, 1998, the government gave guarantees to all depositors and creditors of banks and established the Indonesian Banking Restructuring Agency (IBRA) with objectives to restructure the banking sector and curtail their assets problems with the establishment of the Assets Management Company (AMC).
3. On February 14, 1998, the IBRA acted to make special surveillance for 54 banks. The IBRA took over the 54 banks with problems. These consisted of 4 state-owned banks and 50 private and regional development banks. The problems of the banks were that all of them had borrowed from the BI to the tune of more than 200% of their capital.
4. On April 22, 1998, the first take over of 7 banks which accepted more than 75% BI liquidity support; and second round closure of 7 banks which owed loans of more than 500% of their capital took place; their supervision was transferred to the IBRA;
5. In April of 1998, the government froze 7 national private banks that were not viable along with 3 private foreign exchange banks and 4 private non-foreign exchange banks, and took over 7 other private foreign exchange banks;
6. On May 29, 1998, occurred the second round take-over of BCA in line with the larger depositor runs. IBRA suspended the bank owners and replaced the management.

7. The 'Due Diligence' proeess of 119 private banks started in August 1998. This was conducted together with BI and International auditors on all Indonesian-owned private banks, and was completed at the end of October 1998.
8. On August 21, 1998 was the third round of closure of 3 frozen banks that had previously been taken over in February 1998 (i.e. BDNI, BUN, and Modern Bank). Their deposits were transferred to state-owned banks.
9. On September 30, 1998, the mega-merger of four state-owned banks (i.e. BankExim, BAPINDO, BBD, and BDN) took plaee and these became the Bank Mandiri.
10. On October 19, 1998, the authorities announced a plan to liquidate 10 frozen banks. After that date, the IBRA became responsible for only BTO and frozen banks while the others were returned to the BI.
11. On March 13, 1999, the government announced the results of the due diligence process and liquidated 38 banks altogether. At the same time, 7 banks were taken over by the IBRA, with 9 other banks to be reeapitalized.
12. During the period of 1999 to 2000, the number of banks decreased from 164 banks in 1999 to 151 banks in 2000. This was because on June 30, 2000, 9 banks merged with Bank Danamon. There was also the merger of 2 joint-venture banks on December 24, 1999 which was executed in 2000. In addition, 2 banks were frozen in October 2000 and 1 bank was frozen in January 2000.
13. By the end of 2001, the number of banks in operation had reduced to 145 banks as a result of the merger of 2 banks on March 27, 2001; 2 more banks merged on September 7, 2001; 3 banks merged on September 28, 2001 and 2 banks were frozen on February 5 and 29, 2001.

14. At the end of 2002, the number of banks in operation had decreased to141 banks because there were five banks that merged to became the Bank Permata in September 2002 (They are Bank Bali, Bank Arta Media, Bank Patriot, Bank Prima Express, and Bank Universal).
15. By the end of 2003, there were 138 banks in operation because of the closure of 3 joint-venture banks, the merger of 2 more banks and the opening of 1 new bank, (i.e. Bank of China), in July 2003.

3.2.6 Period VI – The Rehabilitation Post-Crises Period (October 2003-Present)

This period was marked by Bank Indonesia's chartered progress and completion of two listed programs of action under the post-IMF Letter of Intent (LOI) and national economic recovery program (i.e. the Government's White Paper) based on the Presidential Instruction 5/2003 issued on December 15, 2003. These were the Macroeconomic Stabilization Program and the Financial Sector Restructuring and Reform Program.

The Macroeconomic Stabilization Program (BI 2004, 1-2) until June 2004 consisted of:

- Action Plans, which had been conducted by Bank Indonesia and had achieved results having the character of "in-progress." This program is still moving forward within the context of implementation of the medium and long-term monetary policies of Bank Indonesia.
- Bank Indonesia's policy package, which covered three main areas. The first was the control of the Rupiah's liquidity; the second were improvements to prudential

banking regulations concerning the net open position; and third was tighter monitoring and regulation of foreign exchange transactions.

- Bank Indonesia and Government maintained and strengthened their coordination, principally. Under the action plans for: (i) control of economic liquidity generated by sale of government bonds and use of government accounts at Bank Indonesia; (ii) operation of Government accounts at Bank Indonesia; (iii) management of Government foreign and domestic debt; and (iv) use of government securities and SBIs as monetary instruments to support monetary policy.

The Financial Sector Restructuring and Reform Program (BI 2004, 2-3) consisted of:

- Action Plans for this program, which covered: (i) preparatory study on financial stability; (ii) research into financial system stability; (iii) the commercial banks and rural banks linkage program for SMEs loans and micro-credit; (iv) Sharia banking regulations draft; and (v) systems design and technology and the regulations draft and the establishment of a Certification Committee for bank supervisors and examiners.
- Bank Indonesia made further progress to support the concepts of the **Indonesian Banking Architecture** (API). These included: (i) the BI Panel of Experts, comprising one of the programs of pillar 2 for creating an effective system for bank regulation and supervision based on international standards; (ii) technical preparations for the launching of the certification program for risk managers; and (iii) Bank Indonesia's draft regulations on the customer complaints mechanism and product transpareney.
- With regard to compliance with the 25 Basle Core Principles (BCP), Bank Indonesia completed work on the legal provisions related to bank restructuring

policy in Bank Indonesia's Regulations concerning CAMEL and continued the draft Assessment Procedure for the Bank Rating system and the preparation of design and technology for the early warning system.

- Bank Indonesia's promotion of Rural Banks and Commercial Banks Linkages Program. At the end of March 2004, a total of 28 eommercial banks and 802 rural banks were participating in the linkage program wlth a total loan ceiling of IDR638 billion and outstanding loans at IDR368 billion. The business plans of banks were to be improved through the linkages program. Bank Indonesia is working together with other stakeholders to develop the program for empowerment of banking and financial advlsors for SMEs and micro enterprises.

In line with the restructuring process, on April 8, 2004, Bank Indonesia revoked the operating licenses of PT. Bank Asiatic and PT. Bank Dagang Bali, and froze that of PT Bank Global International, Tbk. on December 14, 2004. These actions were taken by Bank Indonesia because of the failure of the banks to resolve their solvency and liquidity problems marked by drastic losses in operating indicators such as the Capital Adequacy Ratio (CAR) and Statutory Reserve Requirements of the three banks.

Today, the number of commercial banks in Indonesia is 132 (November 2004). When compared to the number of banks in other countries like Thailand's 34 banks, Malaysia's 8 banks and Singapore's 3 banks (EFR 2004, 13), then the number of banks in Indonesia is assumed in many circles to be still too many. However, there are no strong reasons expressed against that number, because the strength of banking industry will be brittle without support by the monetary authorities and central bank supervision by various regulations instructing banks on how to be able to run their function as the machine of economic growth and intermediation.

3.3 Banks Restructuring

The effect of the monetary crisis and the existence of speculator attacks on the IDR since July of 1997 finally dragged the brittle banking sector to systematical risk, which progressively worsened the economy of Indonesia. On the onset of the Asian financial crisis, Indonesia had 222 banks, many of which became insolvent from the impact of the crisis. In enhancing the Indonesian economic recovery as a whole, the Indonesian government implemented an initiative to recover the banking sector as a core of economic activity. On January 27, 2004, the IBRA (Indonesian Banking Restructuring Agency) established an Implementing institution (an ad hoc institution).

The main objective of the IBRA was the recovery of the banking system within 5 years after which it was to be disbanded. The IBRA's core assignments or activities were **bank restructuring**, **loan assets resolution**, **shareholder settlement**, and **recovery of state funds**. The general structure of the IBRA is as shown in Figure 3.3.

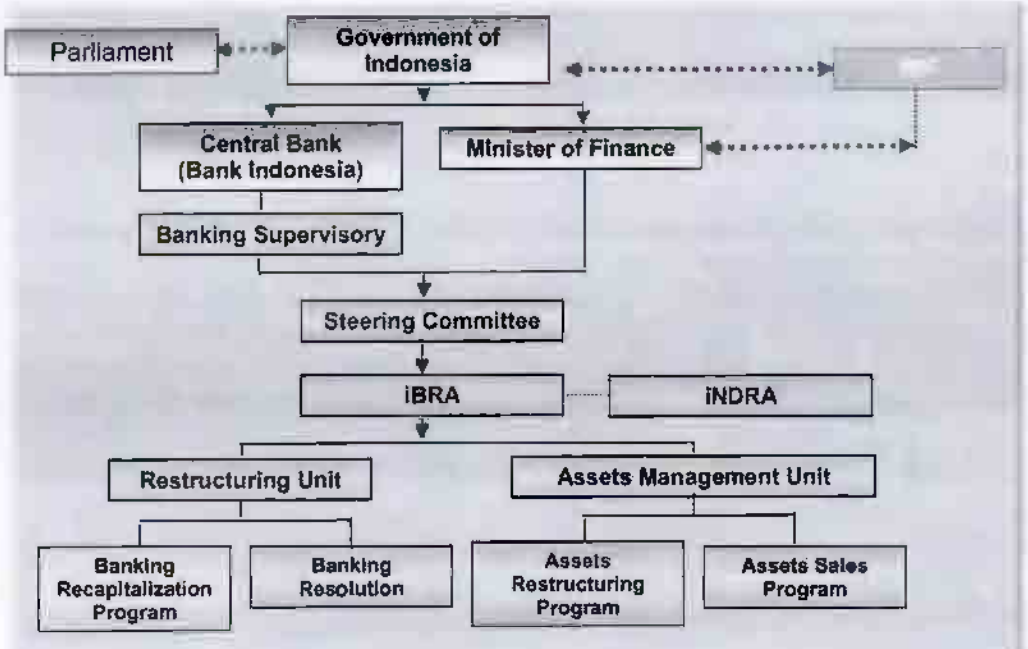

Figure 3.3 The General Structure of the IBRA Position

3.3.1 The Banks Restructuring Program

A bank restructuring program, which is used to overcome a banking crisis, consists of two elements: (i) financial restructuring including capital injection and loan restructuring; and (ii) operational restructuring comprising the improvements in a bank's internal organization such as its operational efficiency, governance, risk management and control (Batunanggar 2002, 14). During the crisis, the Indonesian banks were hemorrhaging funds, draining the BI reserves at a rate of IDR144.54 trillion for the bank restructuring (see IBRA 2002, 15). These amounts were in the form of channeled liquidity support each month from August 1997 until January 1999 for 48 banks that received the liquidity support (Table 3.5). From Table 3.5, it could be seen that four bank received the biggest liquidity support. They are the BDNI (Bank Dagang National Indonesia) 25.62%, BCA (Bank Central Asia) 18.41%, Bank Danamon 15.94%, and Bank Umum National (BUN) 8.35%.

3.3.2 The Indonesian Banks Recapitalization Program

As part of the continuing banks restructuring program, the Indonesian government also conducted the banks recapitalization program for selected commercial banks, including some banks under the IBRA's control. As explained previously, the banks recapitalization program was to address the problems in order to make the banking system healthy, and to maximize its contribution to the economy as a whole.

Table 3.5 Banks Receiver of BI Liquidity Support (IDR billion)

NO	Bank Name	Status	Initial Liquidity Support	Collateral BI version	Collateral BPK version	Collateral insufficiency
1	BDNI	Frozen bank	37,040	7,091	5,434	31,606
2	BCA	Bank Taken Over (BTO)	26,596	32,107	4,010	22,586
3	Bank Danamon	Bank Taken Over (BTO)	23,050	37,231	3,260	19,790
4	BUN	Frozen bank	12,068	2,235	1,331	10,737
5	BHS	Liquidated bank	3,866	-	-	3,866
6	BIRA	Frozen bank (BBKU)	4,018	986	1,330	2,688
7	Bank Pacific	Liquidated bank	2,133	-	-	2,133
8	BNN	Frozen bank (BBKU)	3,020	2,250	1,122	1,898
9	Bank PDFCI	Bank Taken Over (BTO)	1,997	100	12	1,985
10	Bank Pelita	Frozen bank	1,990	345	95	1,895
11	Bank Tiara Asia	Bank Taken Over (BTO)	2,978	918	1,272	1,706
12	SBU	Liquidated bank	1,687	-	-	1,687
13	Pesona Utama	Frozen bank (BBKU)	2,335	596	651	1,684
14	Bank PSP	Frozen bank (BBKU)	1,939	334	334	1,605
15	Bank Surya	Frozen bank	1,654	101	101	1,553
16	BCD	Frozen bank (BBKU)	1,403	49	82	1,321
17	Bank Ficorinvest	Frozen bank (BBKU)	916	6	6	910
18	SEAB	Liquidated bank	899	-	-	899
19	Bank Subentra	Frozen bank	661	-	-	661
20	Bank Modern	Frozen bank	2,558	1,829	1,791	767
21	Bank Pinaesaan	Liquidated bank	681	-	-	681
22	Bank Sewu	Frozen bank (BBKU)	642	47	48	594
23	Bank Astria Raya	Liquidated bank	579	-	-	579
24	Bank Asia Pasific	Frozen bank (BBKU)	2,055	1,827	150	1,905
25	Bank Istismarat	Frozen bank	520	20	5	515
26	Bank Industri	Liquidated bank	511	-	-	511
27	Papan Sejahtera	Frozen bank (BBKU)	929	1,387	443	486
28	Bank Centris	Frozen bank	630	163	171	459
29	Dagang Industri	Frozen bank (BBKU)	482	33	33	449
30	Bank Intan	Frozen bank (BBKU)	402	222	15	387
31	Bank Umum Servia	Frozen bank (BBKU)	362	-	-	362
32	Mataram Dhanarta	Liquidated bank	337	-	-	337
33	Bank Dewa Ruti	Frozen bank (BBKU)	609	305	305	304
34	Bank Guna Intl	Liquidated bank	251	-	-	251
35	Bank Uppindo	Frozen bank (BBKU)	243	3	3	240
36	Bank Tata	Frozen bank (BBKU)	221	372	7	214
37	Bank Jakarta	Liquidated bank	211	-	-	211
38	Bank Annco	Liquidated bank	210	-	-	210
39	Kosagrha Semesta	Liquidated bank	202	-	-	202
40	Citrahasta Manunggal	Liquidated bank	202	-	-	202
41	Bank Akan	Frozen bank (BBKU)	301	177	177	124
42	Bank Hokindo	Frozen bank	214	159	95	119
43	Bank Dwipa Semesta	Liquidated bank	110	-	-	110
44	Bank Danahutama	Frozen bank (BBKU)	185	192	94	91
45	Bank Lautan Berlian	Frozen bank (BBKU)	241	180	177	64
46	Bank Daka	Frozen bank	153	57	99	54
47	Bank Umum Majapahit	Liquidated bank	9	-	-	9
48	Bank Baja Intl	Frozen bank (BBKU)	38	202	65	(29)
	Total		144,536	91,525	22,718	121,816

Source: BI & H.B Hadori & Rekan (2002, 61)

Essentially, the core of the banks recapitalization program addresses the maintenance of the continuity of banking operations and prospects, especially in the efforts at quick recovery of the national economy, including the restructuring of the ownership of banks. The indicators used in the recapitalization program measure how big or small the capital deficiency of a particular bank is. Nevertheless, in general, the Indonesian government has specified some special criteria in conducting the banking recapitalization (see Box 4).

Box 4 The Criteria for the Recapitalization Program

The Indonesian Government decided that the eligibility of a bank to join the recapitalization program was based primarily on two main aspects:

1. The viability of bank's business plan; and
2. The fitness and probity of a bank's management and the controlling shareholders. The assessment was conducted by several committees (Technical Committee, Evaluation Committee, and Policy Committee) representing Bank Indonesia, Ministry of Finance and IBRA. To ensure transparency and objectivity, independent observers representing the IMF, World Bank, and ADB were invited to the meetings but without any rights over the decision making process.

Business Plan Review

1. *Main criteria*, included:
   - Ability of bank's shareholders and/or new investors to inject minimum of 20% funds to meet a 4% CAR,
   - Compliance with the existing regulations (legal lending limit, net open position, etc.),
   - Bank's viability to raise up their own CAR to 8% by the end of 2001, based on a stress test model (developed by International consultants).
2. *Additional criteria*, included: assets rehabilitation plan, business development plan, franchise values (networks, IT/IS) and significance to the economy, projected ROE of 15% at the end of 2001.

A bank will pass the business plan review if it met at least all the main criteria.

Fit and Proper Test

The fit and proper test was conducted on banks' controlling shareholders (owners of more than 25% of the shares), board of commissioners, and board of directors. The fit and proper test consists of:

1. *Fitness Test:* The competence and independence of a bank's board of commissioners and directors will be passing from fitness test.
2. *Propriety Test:* The integrity, fulfillment of commitment to BI, enlistment of bad debts and/or other imprudent fraudulent actions of a bank's management and controlling shareholders.

Source: Joint Decision, between MoF of RI and BI Governor, 8 February 1999, Concerning Execution of Recapitalization of Commercial Banks.

The recapitalization process involved several steps, such as transferring a bank's bad loans to the IBRA; signing the recapitalization agreement between the government, the BI and the bank's management; and injecting additional capital by owners in the form of fresh money as well as the issuance of **the government bonds** as **capital injection.**

Before deciding on which bank to be recapitalized, the BI was assisted by a team of international auditors who performed due diligence on all the banks. The due diligence process started in August 1998 and was completed in December 1998. It was performed on all Indonesian-owned banks in order to determine their solvency and cost of recapitalization.

The due diligence[34] process was conducted as a step for early selection. The Government decided on three bank categories in terms of CAR. They are categories A, B, and C. The Bank with a CAR of 4% or more is categorized as A; the bank with a CAR of between -25% and 4% entered as category B while the bank with a CAR of below -25% entered as category C (See Table of 3.6).

Table 3.6 The Results of Due Diligence on Commercial Banks

Group of Banks	A Category CAR ≥ 4%	B Category -25% < CAR < 4%	C Category CAR < -25%	Total
State-owned Banks	0	0	7	7
Regional Development Banks	15	8	4	27
National Private Banks	74	16	38	128
Joint-Venture Banks	30	0	2	32
Total	**119**	**24**	**51**	**194**

Source: BI 2000

[34] The due diligence focused on capital aspects and productive assets by paying attention to subsequent events (See BI Annual Report 2000, 112).

Category A banks did not participate in the recapitalization program, but were required to prepare and submit to the BI their business plans. Banks categorized as B were obliged to follow the recapitalization program as long as they fulfilled selected clauses (see Box 4). Banks categorized as C were given time up to 30 days to add to their capital or improve their productive asset quality until they reached category B status, so that they can be allowed to follow the recapitalization program.

The recapitalization was conducted in four rounds by the government as follows:

1. The first round on April 29, 1999, involved the recapitalization of private banks. They were: Bank Lippo Tbk; Bank International Indonesia; Bank Bukopin; Bank Universal; Bank Prima Ekspress; Bank Artamedia; and Bank Patriot.
2. The second round on May 29, 1999, covered the recapitalization of regional development banks. They were: BPD DI Aceh; BPD Bengkulu; BPD Sumatera Utara; BPD Lampung; BPD DKI Jakarta; BPD Jawa Tengah; BPD Jawa Timur; BPD NTB; BPD NTT; BPD Kalimantan Barat; BPD Sulawesi Utara; and BPD Maluku.
3. The third round took place between March and July of 2000 and involved the recapitalization of state-owned banks. They were Bank Mandiri; Bank BNI; Bank BRI; and Bank BTN.
4. The fourth round in March 2000 covered the recapitalization of private banks when Bank Danamon was merged with 9 BTOs (Bank Duta; Bank Jaya International; Bank Nusa Nasional; Bank PDFCI; Bank Pos Nusantara; Bank Rama; Bank Risyad Salim International; Bank Tamara; and Bank Tiara Asia). In June 2000, the Bank Bali and Bank Niaga were also recapitalized.

In October 2000, the government of Indonesia and BI completed the restructuring of the banking system through the issuance of *government recapitalization bonds* that had begun in April 1999 (BI 2000, 115). As a consequence of the recapitalization, the ownership of banking equity by government by the end of December 2000, had increased to 95.1% of the total domestic banking system equity, while the CAR had also improved by 12.7%.

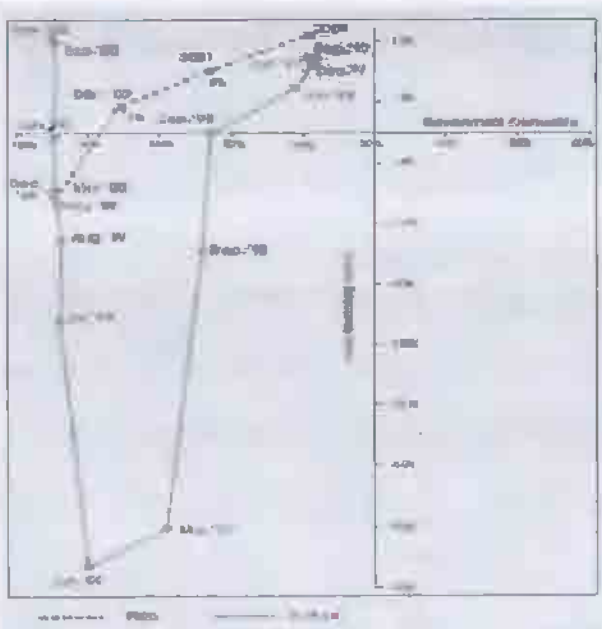

Figure 3.4 Evolvement of CAR & Government Ownership in Banking
Source: BI Annual Report 2000, 115

Figure 3.4 shows the graph of what happened: the degradation of CAR and the level of government equity ownership in the domestic banking system. Government ownership of bank equity on post-recapitalization was only an interim measure and gradually would be phased out through the divestiture of bank shares.

The amount of recap-bonds issued by government expressed the amount of NPLs owed to the banks that were recapitalized. Meanwhile, the amount of recap-bonds given to each bank was equal to the amount of NPLs transferred to the IBRA. For the

banking sector, higher NPLs imply economy insolvency, when the market value of their assets is lower than the market value of their liabilities. On the other hand, when the CAR of a bank becomes negative, it means accounting insolvency, when the accounting report of its net capital and reserves according to generally accepted accounting principles is negative (see Sheng 1996, 25).

Table 3.7 showed that the grand total cost of the banks recapitalization program was IDR430.4 trillions (for detail see on Table 3.8). This amount is equivalent to 33.35% of Indonesian GDP for the year 2000, which was IDR1,290.7 trillions (see BI Annual Report 2000). The overall fiscal cost of the banking crisis resolution in Indonesia reached 51.02% of the GDP realized in 2000.

Table 3.7 Indonesian Fiscal Cost of Banking Crisis Resolution (in IDR trillions)

Group of Banks	No. of Banks	BI Liquidity Support	Credit Program	Govt. Guarantee	Cost of Banks Recapitalization				Total
					Fixed Rate	Variable Rate	Hedge Bond	Sub Total	
Liquidated banks	16	11.89							11.89
Frozen banks (BBKU)	38	17.32							17.32
Frozen Banks-1 (BBO-1)	7	6.02							6.02
Frozen Banks-2 (BBO-2)	3	51.67							51.67
Bank taken-over (BTO)	6	57.64			33.9	75.4	-	109.3	166.94
State owned-banks	4			20.00	114.9	131.2	36.82	282.9	302.90
Regional Banks	12				0.4	0.8	-	1.2	1.20
Various			9.97	53.78	-	-	-	-	63.75
Recapitalized private banks	7				18.0	18.9	-	36.9	36.90
Grand Total		**144.54**	**9.97**	**73.78**	**167.2**	**226.3**	**36.80**	**430.4**	**658.59**

Source: IBRA Annual Report 2000 and BI Annual Report 2000, 107

Based on the focus of the earlier discussion as outlined above, the detail objectives of banks recapitalization, there are to increase the capital ratios of the banks (ii) to increase the performance of banks (iii) to increase lending (iv) to increase write-offs

on NPLs assets and (v) to encourage the restructuring and revitalization of the Indonesian-banking sector.

Table 3.8 List of Receivers of Banking Recapitalization Program

State-owned Banks (Based on PP No. 52/1999)			
1	PT Bank Mandiri (Persero)		178,000.00
2	PT Bank BNI (Persero)		61,788.00
3	PT Bank Rakyat Indonesia (Persero)		29,067.00
4	PT Bank Tabungan Negara (Persero)		14,067.00
		Sub Total	**282,922.00**
Bank Taken Over/BTO (Based on Decision of Head of IBRA No. SK-201/BPPN/0599).			
5	PT. Bank Bali, Tbk*		5,314.00
6	Bank Central Asia, Tbk		60,877.00
7	PT Bank Niaga, Tbk		9,462.00
8	PT Bank Danamon, Tbk		52,764.00
9	PT Bank Duta, Tbk	Merge to Bank Danamon	
10	PT Bank Jaya International		
11	PT Bank Nusa Nasional		
12	PT Bank PDFCI		
13	PT Bank Pos Nusantara		
14	PT Bank Rama Tbk.		
15	PT Bank Risyad Salim International		
10	PT Bank Tamara		
17	PT Bank Tiara Asia		
		Sub Total	**128,417.00**
B Category Banks (Based on PP No. 34/1999)			
18	PT Bank Arta Media*		130.00
19	PT Bank Bukopin		370.00
20	PT Bank International Indonesia, Tbk		6,627.00
21	PT Bank Lippo, Tbk		6,055.00
22	PT Bank Patriot*		51.00
23	PT Bank Prima Express*		531.00
24	PT Bank Universal, Tbk*		4,097.00
		Sub Total	**17,861.00**
Regional Banks Development (Based on PP No. 35/1999)			
25	BPD Aceh		67.66
26	BPD Sumatera Utara		302.87
27	BPD Bengkulu		4.94
28	BPD Lampung		11.27
29	BPD DKI Jaya		172.70
30	BPD Jawa Tengah		389.42
31	BPD Jawa Timur		61.15
32	BPD Kalimantan Barat		47.40
33	BPD Sulawesi Utara		18.48
34	BPD Maluku		139.48
35	BPD Nusa Tenggara Barat		14.55
36	BPD Nusa Tenggara Timur		0.47
		Sub Total	**1,230.39**
		Grand Total	**430,430.39**

* Merged with Bank Bali and changed its name to PT Bank Permata on 30/9/2002.The merger operation was finalized on 31/12/2002 (Suta and Musa 2004, 168).

3.4 Banks Performance

The policy of the Indonesian government was to save its national banking system from devastating collapse with direct trade-off for fiscal expenditure, monetary as well as for banking itself. On the fiscal side, the issuance of recap-bonds had consequences on expenditure in the state budget every year, in the form to interests and initial payments. On the monetary side, interests, or initial recap-bonds payments increased the money supply through the make-up account balances of the banks (M1).

For the banking system, the banks' intermediation function improved as indicated by the rising loans (financing) to the real sector as shown by the ratio of bank credits to GDP In Table 3.9.

Table 3.9 Composition of Bank Credits to GDP (in IDR trillions)

Items	1998	1999	2000	2001	2002	2003	2004
GDP	995.8	1,110.0	1,290.7	1,684.3	1,863.3	2,045.9	2,303.0
Ratio of Bank Credits to GCP	54.76%	24.98%	24.82%	18.77%	19.93%	21.27%	24.30%
Composition of Bank Credits by Economic Sector*	**545.3**	**277.3**	**320.4**	**316.1**	**371.3**	**435.1**	**559.6**
Agriculture	34.9	26.1	19.9	21.3	22.7	24.4	33.1
Mining	7.9	5.4	5.3	3.1	3.9	5.1	7.8
Industry	195.8	97.9	109.7	118.7	122.7	122.4	144.9
Electricity	23.5	20.0	5.1	5.1	4.4	4.5	6.0
Construction	41.5	13.3	7.2	8.2	9.4	12.5	20.0
Trade	96.1	45.2	46.0	49.3	66.3	84.0	113.1
Transportation	17.6	12.4	7.3	7.6	12.6	16.3	17.7
Business Services	88.6	26.4	26.4	27.7	31.8	44.3	56.4
Social Services	8.3	3.3	2.9	3.6	4.6	10.8	8.1
Others	31.0	27.3	90.6	71.5	92.9	110.8	152.5

*Investment and Working Capital Credits only, excluding consumption financing.
Source: BI Annual Reports (various issues)

From Table 3.9, it could be seen that the contribution of financing (credits) to the national banking system was very low. Since the year 2001 to 2004, the ratio of bank credits to GDP was only 24.3% for the real sector. This condition was very much

influenced by the banks' performance after post-restructuring and recapitalizing. The national banking system's performance indicators could be seen in Table 3.10.

Table 3.10 Commercial Bank Performance Indicators

Indicators	1998	1999	2000	2001	2002	2003	2004
Total Assets	895.5	1,006.7	1,039.9	1,099.7	1,112.2	1,213.5	1,272.1
Third Party Fund	625.3	617.5	699.1	797.4	835.8	888.6	983.1
Credits	545.5	277.3	320.4	358.6	410.3	477.2	595.1
LDR (%)	72.4	26.2	33.4	33.0	38.2	43.5	50.0
NPL – Gross (%)	48.6	32.8	18.8	12.1	8.1	8.2	5.8
NPL – Net (%)	34.7	7.3	5.8	3.6	2.1	3.0	1.7
Capital	(129.8)	(41.2)	53.5	62.3	93.0	110.8	118.6
CAR (%)	(15.7)	(8.1)	12.5	19.9	22.4	19.4	19.4
Profit (Loss) before Tax	(178.6)	(75.4)	10.5	13.1	22.0	26.4	41.1
ROA (%)			1.5	1.5	2.0	2.6	3.5
Net Interest Income	(61.2)	(38.6)	22.8	37.8	42.9	49.5	65.8

Source: BI Annual Report various issued

From Table 3.10, it could be clearly shown that although the level of CAR could reach above 12%, the percentage of financing (credits) to the real sector (LDR) was lower. It could only reach 50% in the year 2004. Regarding the time required for the economic recovery activities, Indonesia's was tardy when compared to other states like Korea, Thailand, and Malaysia. In fact, the lower LDR with lower net interest incomes (NII) did not really reflect that banks have good earning assets, because the earning assets were dominated by government bonds (i.e. recap-bonds).

The growth in credits was accompanied by improved credit quality, where the gross NPLs dropped from 8.2% at the end of 2003 to 5.8% at the end of 2004, while net NPLs improved from 3.0% to 1.7%.

3.5 Conclusion of Chapter

From the Indonesia banking evolution, it has been shown that in reality, financial liberalization preceded the happening of the currency crisis that led to an endless banking crisis.

The banking crisis that knocked over Indonesia generated larger ones to knock over the Indonesia economic system as a whole. To avoid deeper ruination of Indonesia economic system, the government decided to save the banking system by liquidity support and banking restructuring. Banking restructuring and resolution was a difficult option, but it was necessary.

BI as the Lender of the Last Resort (LOLR) had issued liquidity support[35] for banks reaching up to IDR144.5 trillion (or 17.67% GDP 2000). The fiscal cost of the banks' recapitalization program was IDR430.4 trillion (or 33.35% GDP 2000). The overall cost of the banking crisis resolution in Indonesia reached IDR658.59 trillion or 51.02% of the GDP realized in 2000.

The government efforts to rescue the Indonesia economy have involved huge amounts of money as the fiscal cost to government. The price paid by government in this recovery was very big and this became the Indonesian people's burden indirectly through the rising fiscal cost. This situation is in alignment with the empirical study by Claessens, Klingebiel, and Laeven (2001) who found that a package of specific resolution measures can help accelerate the recovery from crisis with significant fiscal costs (see also Enoch, Garcia, and Sundarajan 2001).

[35] Liquidity support included blanket guarantee for all third party funds in the Indonesia banking system.

Government through the issuance of government obligations (or bonds) financed the banking recapitalization program. These were conversion obligations. The expense of obligation and its interest rate was charged upon the **state budget** (APBN, Anggaran Pendapatan Belanja Negara).

However, these is a big problems, need investigation to understand how the recapitalization program can achieve the recapitalization program objectives, which are to increase the capital ratios, to increase the performance of banks, to increase lending, and to decrease NPLs assets.

4. CONCEPTUAL FRAMEWORK, RESEARCH DESIGN, AND METHODOLOGY

4.1 Conceptual Framework

In line with the methodology of this research, the outcomes will be elaborated from the research questions in Chapter 1, such as what variables were involved in this study and where to find the data. Thereafter, the hypotheses developed from the model formulated will be put forward.

The formulation of the model follows the flow of the relationships between the receivers of banks recapitalization to the banks performance and the effect of the capital injections on the growth of the real sector lending, as shown below.

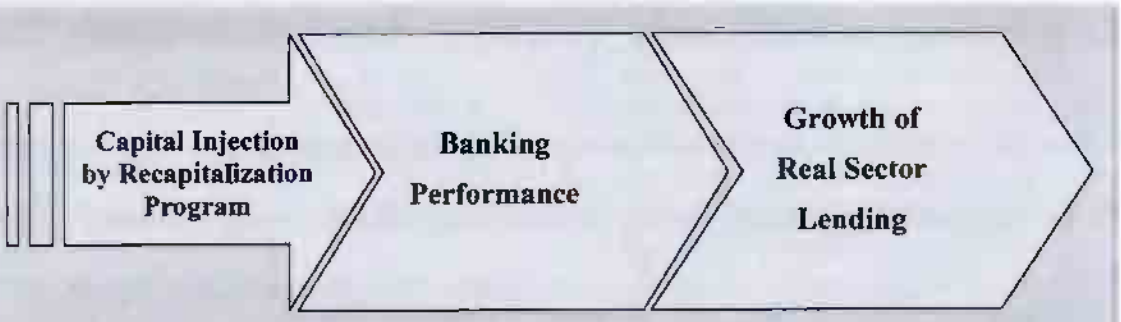

Figure 4.1 Formulation of the Model

4.1.1 Banking Performance Measurement Used

The variable of banks performance is based on the component factors from BI circular letter No. 6/23/DPNP dated 31 May 2004. The component factors referred to

CAMELS[36] (Capital, Assets Quality, Management, Earning, Liabilities, and Sensitivity to Market Risk). This is in line with the IMF's position (2003, 6) that deposit-taking institutions have a set of core Financial Soundness Indicators (FSI), which they termed "CAELS". Regrettably, this core set is without the Management component. However, the research conducted by Whalen Thomson (1988) found evidence of that financial ratio of CAMEL was accurate in compiling the bank rating. Thomson (1991) also found evidence of that ratio of CAMEL as a proxy variable in the conditions of bank finance and was a related factor to predicting the possibility of bank bankruptcy within the period of 4 years before a bank actually becomes bankrupt.

Based on this though idea, the author chose the bank performance variables from the acronym of 'CAMELS'. On the other hand, the management variable as part of CAMELS uses qualitative perspective/approach to measure the performance of banking, so we can use net profit margin (NPM) or earnings before tax and provisions as a percentage of the bank's total assets (EBTDA)[37]. The NPM variable is proxy for the management component in CAMELS, and have been used by Sumarta and Yogiyanto (2000, 187) in their research to evaluate the performance between Indonesia and Thailand public banks before the crisis in 1997. Thus, the components of CAMELS as variables of banking performance measurement can be formulated and where the source of the data will be found out are given in Table 4.1.

---

[36] A CAMEL as used by BI is a Composite Index that assesses the level of the health of banks since May 31, 2004. This CAMEL is an order adopted by BI from Bank International for Settlement (BIS) within the Basel Accord (1988) as amendment in 1996. CAMELS refer to the financial soundness indicators (FSIs), for further explains see Sundararajan, 2000. The sensitivity to market risk (S) has only been used since January 1, 1997 as a Uniform Financial Institutions Rating system (UFIR) by the Federal and State Regulators in USA (Koch & MacDonald, 2000, 139).

[37] For more explanations on EBTDA, see Davis and Zhu (2005, 7) and Claessens, Klingebiel and Laeven (2001, 15).

Table 4.1 Banking Performance Variables

CAMELS Component	Banking Performance Variables	Source of the Data
Capital	1. CAR (capital adequacy ratio)	• Bank Indonesia • Financial Statements from each receiver of bank recapitalization. • Annual Report from each the receiver of bank recapitalization
Assets quality	2. NPL-net (non performing loans net) 3. P-NPL-exp. (Provision to NPL exposure)	
Management	4. EBTDA (earning before tax and provisions as a percentage of bank total assets)	
Earnings	5. ROA (return on assets) 6. ROE (return on equity) 7. NIM (net interest margin) 8. CIR (cost to income ratio)	
Liquidity	9. LDR (loan to deposits ratio)	
Sensitivity to the Market Risk	10. NOP (net open position)	

Source: Compiled by the author

4.1.2 Effectiveness of the Recapitalization Measurement Used

On the real sector, the author will examine the effects of capital injection through the banks recapitalization program based on twelve dependent variables. The real sector consists of 10 sectors, based on the divisions and definitions by Bank Indonesia (BI). The examination focus is on the big growth of credit at each sector that happened or not after the bank recapitalization period.

On the whole, these will be evaluated as to how big the growth of loans by the various bank groups, like the state-owned banks, private banks, banks taken over and the regional development banks, have been. We will also look at the composition of the growth of small enterprises loans and non-small enterprises loans. In addition, the investigation of the effect of the capital injections will be based on 12 dependent variables listed as follows:

1. Growth in agriculture sector lending;

2. Growth in mining sector lending;
3. Growth in manufacturing sector lending;
4. Growth in electricity sector lending;
5. Growth in water & gas sector lending;
6. Growth in construction sector lending;
7. Growth in trade, hotel & restaurants sector lending;
8. Growth in transportation sector lending;
9. Growth in financial services sector lending;
10. Growth in services sector lending;
11. Growth in small enterprise lending; and
12. Growth in non-small enterprise lending.

The author will use empirical study approach to examine the data and use the ordinary least square (OLS) method as a tool-test. The OLS helps to find the line of regression, or best adaptation line, with the least margin of error. That is, by minimizing the amount of the squares of mistakes in the estimation. The basic regression[38] takes the form:

$$GROWTH_{i,t} = \beta_0 + \beta_1 BANK\_SPECIFIC\_FACTOR_{i,t-1} + \beta_2 MACRO\_CONTROL_{i,t-1} + \beta_3 CAPITAL\_CapINJECTION_{i,t-1} + \varepsilon_{i,t}$$

or

$$Y_{i,t} = \beta_o + \beta_1 X1_{i,t-1} + \beta_2 X2_{i,t-1} + \beta_3 X3_{i,t-1} + \varepsilon_{i,t}$$

For dependent variables (variables description):

$GROWTH_{i,t}$ or $Y_{i,t}$	=	*Represents the dependent variables in time t for bank I. as lending of growth for total*

[38] Based on the idea from Montgomery and Shimizutani (2005), their study examined the effectiveness of bank recapitalization policies in Japan. Nevertheless, the parameters of the model will be modified according to the data availability and in alignment with Indonesian banking system conditions.

		bank, four group of bank.

For independent variables:

$BANK\_SPECIFIC\_FACTOR_{i,t-1}$ Or $X1_{i,t-1}$	=	*Bank specific factors that influence loan growth, such as:* *1. Changes in operating profit to total assets;* *2. Change in bad loan write-offs to total assets; and*
$MACRO\_CONTROL_{i,t-1}$ or $X2_{i,t-1}$	=	*1. GDP Growth; except the regional GDP growth will be take into account to regional bank;* *2. Inflation;* *3. Lending interest rate; and* *4. Exchange rate.*
$CAPITAL\_CapINJECTION_{i,t-1}$ or $X3_{i,t-1}$		*Capital position, including the amount of capital injection by banks recapitalization. To get the real effect of the capital injections, the moment in time when each bank accepted the capital injected will be required of the dummy variables.*

This method will be used to examine the effectiveness of capital injected in enhancing the recapitalization program. The main reason for using this method is that the model can elaborate the components of the real sector and the lending segments.

4.2 Designing the Researcb

Based on the model formulated in Figure 4.1, the research design will follow the flow of general research in the quantitative paradigm. The research has been designed to avoid the occurrence of barriers during the field research to be conducted. The complete flow of the research design is shown in Figure 4.2.

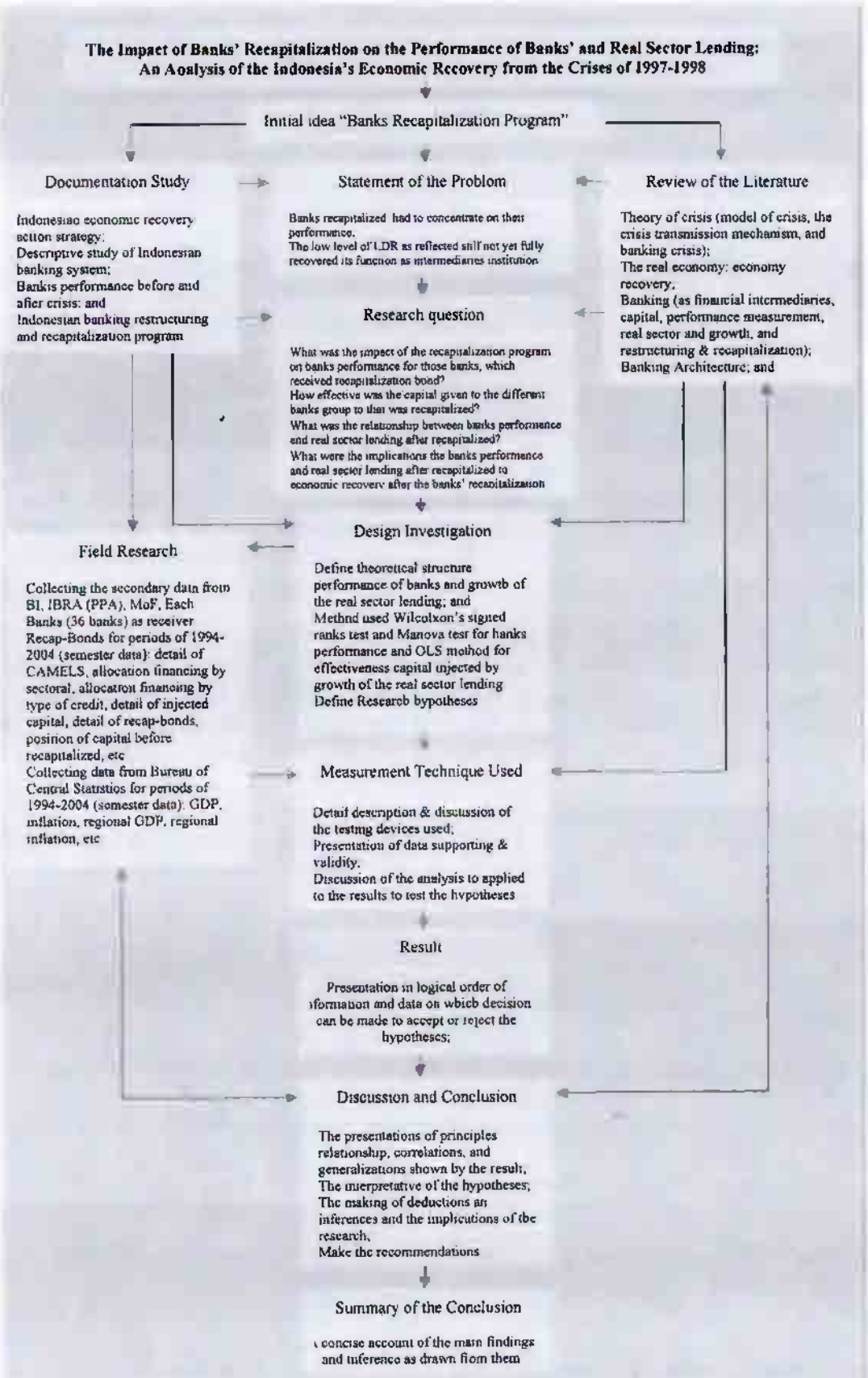

Figure 4.2 Flow of Designing Research

According to Figure 4.2, the research activities include the process of data collection, measurement of the variables, data analysis, discussions and conclusion, and summary of the conclusion.

4.3 Methodology and Research Hypotheses

4.3.1 Methodology

It has been explained in the research design that in conducting this research, various statistical methods will be applied. These will include the Wilcolxon's signed ranks test and Manova test for banks performance, and the panel data method for assessing the effectiveness of capital injected on the growth of the real sector lending.

4.3.1.1 Methodology of Bank Performance

Based on Table 4.1, the non-parametric statistics (Npar) to be used is the Wilcolxon's Signed Ranks Test and Manova Test. The Wilcolxon's Signed Ranks Test will be used to evaluate the two periods of perception, before and after the existence of capital injected through the banking recapitalization program. The methodology of parametric matched-sample analysis (the t test on paired differences) requires interval data and the assumption that the population of differences between the pairs of the observations is normally distributed (Anderson, Sweeney, and Williams 2002, 797). However, if in fact the assumption of normally distributed differences has not matched, then the Npar Wilcoxon signed-rank test can be used. For more details, the decision process on Npar Wilcoson signed-rank test is explained in Table 4.2.

Table 4.2 Decision Making Process on Npar Wilcoson Sign-Rank Test

Hypothesis: Using a level of significance of $\alpha = 0.05$ and $\alpha = 0.10$	H_o: The populations are identical H_a: The populations are not identical
Basis of decision making	By comparing number of z count with z table • If z count < z table, then Ho is accepted • If z count > z table, then Ho is rejected The value of the test statistic z is: $z = \frac{T - \mu_T}{\sigma_T}$ By using the probability value with the rule: • If probability > 0.05 then H_o is accepted • If probability < 0.05 then H_o is rejected

To compare the banks' performance, the testing of time interval hypothesis will be conducted eight times for the summary hypotheses and partial hypotheses as follow:

1. One year before and one year after capital injected;
2. One year before and two years after capital injected;
3. One year before and three years after capital injected;
4. One year before and four years after capital injected;
5. Two years before and one year after capital injected;
6. Two years before and two years after capital injected;
7. Two years before and three years after capital injected; and
8. Two years before and four years after capital injected;

The defined fours years' lead-time of capital injected hypothesis testing is based on IBRA criteria for banking restructuring in Indonesia. The defined two years time lag

for the capital-injected hypothesis is based on the assumption that the bank performance during this period was good.

On the other hand, the Manova test will be used for the variance analysis of a few of the group of variables at once. The Manova test will be used to test the hypotheses summary as to whether the partial hypotheses result is consistent with the entire bank performance variables at once, see the procedure on Appendix 2.

4.3.1.2 Methodology of Effectiveness of Capital Injected

The regression equation by the OLS method on the fifteen dependent variables will be statistically tested. This will be conducted to find the coefficient of correlation, the level of correlation coefficient for one side output, R Square (variance), ANOVA test or F-Test, and t-test to test the significant of the dependent variables and variable dependency. The OLS estimation results for the panel data on small enterprises sector lending and non-small enterprises sector lending, will be reported each group of banks. The groups of banks include **state-owned banks**, **banks taken over (BTO), B category banks**, and **regional development banks**.

4.3.2 Research Hypotheses

From the model in Figure 4.1, there are two research focuses to be examined. These are the banking performance before and after getting capital injection through the recapitalization program, and the examination of the effectiveness policy of the bank recapitalization program for every group of banks and each bank that was recapitalized.

4.3.2.1 Bank Performance Hypotheses

As has been submitted before, this research will present the differences in bank performances before and after the receipt of the capital injection through the banking recapitalization program. The set of analysis to be used involves the components of CAMELS, as mentioned in Table 4.1. The alternative hypotheses, Ha, can be expressed as follows:

Ha : There is a difference in measured bank performance according to CAMELS ratio for the period before and after the banks accepted capital injection through banking recapitalization program.

The test for each ratio of CAMELS will be done to express the significant differences between the period of time before and after the banks received the capital injection through the recapitalization bonds, hereinafter can be formulated the alternative hypothesis by partial.

For the banks which received new injected capital through banking recapitalization program:

Ha1 : Bank performance level as measured by CAR after recapitalization is different from what it was before recapitalization.

Ha2 : Bank performance level as measured by NPL-net (non-performing loan net) after recapitalization is different from what it was before recapitalization.

Ha3 : Bank performance level as measured by P-NPL-exp. (Provision to NPL Exposure) after recapitalization is different from what it was before recapitalization.

Ha4 : Bank performance level as measured by EBTDA (earning before tax and provisions as a percentage of bank total assets) after recapitalization is different from what it was before recapitalization.

Ha5 : Bank performance level as measured by ROA (return on assets) after recapitalization is different from what it was before recapitalization.

Ha6 : Bank performance level as measured by ROE (return on equity) after recapitalization is different from what it was before recapitalization.

Ha7 : Bank performance level as measured by NIM (net interest margin) after recapitalization is different from what it was before recapitalization.

Ha8 : Bank performance level as measured by CIR (cost to income ratio) after recapitalization is different from what it was before recapitalization.

Ha9 : Bank performance level as measured by LDR (loan to deposits ratio) after recapitalization is different from what il was before recapitalization.

Ha10 : Bank performance level as measured by NOP (net open position) after recapitalization is different from what it was before recapitalization.

4.3.2.2 Effectiveness of Capitai Injcctcd to the Real Sector Hypotheses

Based on the results of the coefficient test of regression for each dependent variable for growth, alternative hypotheses can be formulated as follows:

Ha11-20 : Regression coefficients for growth of total lending and each real sector component are significant as outcomes of the new capital injected by the banks recapitalization program.

Ha21 : Regression coefficient for the growth of small enterprises sector lending is signifieant as an outcome of the new capital injected by the banks recapitalization program

Ha22 : Regression coefficient for growth of non-small enterprise sector lending is significant as an outeome of the new capital injected by the banks recapitalization program.

4.4 Conclusioo of Chapter

From the research framework above, the model-formulation has shown that there exists a strong relationship between performance and real sector lending. It means that if banking performance deteriorates, it would greatly affect the level of credit as a whole. Thus, the policy of government has been to restructure the Indonesia banking system as the catalyst to the recovery of the Indonesian economy as a whole.

The problem is how to assess the effectiveness of the bank restructuring program, and especially, to evaluate the banks' recapitalization program to determine the extent to which it has improved banks performance and whether truly the Indonesian economic recovery was enhanced by the contributions of real sector lending. To evaluate the performance of banks, we would use non-parametric statistics based on financial statements, and to examine the effectiveness of the banks' recapitalization to the real sector lending, we would use the panel data on individual banks.

5. SUMMARY OF FINDINGS AND CONCLUSION FOR A FUTURE RESEARCH AGENDA

The summary of findings obtained from the evolution of the Indonesia banking system as narrated in the literature review and affirm why a future research agenda is important done.

5.1 Summary of findings

The summary of findings, which are elaborated below, covers the reasons why the crisis happened until the decision of the government to undertake a national banking restructuring through the bailout of the debts of national private banks and banks recapitalization.

1. The crises that happened in East Asia were brought about by the twin problems of the occurrence of a currency crisis in big percentages of devaluation that progressively deepened the banking crisis (Kaminsky & Reinhart 1999). Especially for Indonesia and Korea, the crises could be grouped into the third generation model of crisis (3GMC), according to Irwin & Vines (1999), which focused on how the banking sector might cause a currency crisis. The problem began with the financial intermediaries where the institutions whose liabilities were perceived as having an implicit government guarantee, ran into moral hazard problems, according to Krugman (1998). The moral hazard happened before the crisis burst, which was in the form of risky credit lending. This has resulted in the occurrence of financial bubbles even after the crisis. This condition was worsened by the existence of capital flights which adversely affected the capital-account crisis and combined with the internal credit

contraction (Yoshitomi & Ohno 1999, 26). On the other side, many researchers held the opinion that the morale hazard problems occurred through the deployment of liquidity support (BLBI) and the handling of NPLs assets which were transferred under the banks' recapitalization program to IBRA supervision.

2. The genesis of the crisis that knocked Indonesia over was triggered by the contagion-effect. It started with the downfall of the Thai Bath on the 2nd July of 1997. That caused Indonesia to fall into a deep crisis, when the period of monetary crisis led to a series of crises, namely, an economic crisis, banking crisis, and even confidence crisis. The lack of confidence in the banking system led to the withdrawal of foreign funds and capital flight. The other effects dried up liquidity in the money market. This matter showed fantastic increases in the inter-bank over-night rates from over 100% to about 300%.

3. Parallel to the dried up liquidity in the money market was the accumulation of overseas debt amounts (by both the government and the private sector) that were denominated in the US dollar. These debts, which were not hedged, resulted in liability dollarization. This led to the brittleness of the corporate world in Indonesia which stayed under the threat of bankruptcy because they were unable to pay their liabilities. Furthermore, the financial and corporate sector weaknesses combined with the macroeconomic vulnerabilities to spark off the crisis (Lindgren et.al 1999).

4. The basic weaknesses of the banking system are the problems of liquidity and solvency. To make matters worse, the loss of society's confidence in the banking system resulted in negative balances in the settlement accounts of the banks with the central bank. However, the effect of the high cost of funds brought in its wake negative interest margins. To overcome this, the banks

performed to boost up the level of interest rates, but this generated the fall of asset quality (making them become NPLs). In addition, the capital adequacy ratio (CAR) of individual banks and nationally declined drastically, or even negatively. As a result, for the first time in Indonesian history, government revoked the operational licenses of banks in big numbers (i.e. 16 banks) in conformity with IMF directives. This liquidation caused the decline of confidence in national banking, not only from customers but also from overseas parties.

5. In response to the dried up liquidity and public loss of confidence, the central bank of Indonesia was forced to function as the lender of the last resort (LOLR) and gave liquidity support (BLBI) and deposit guarantees to banks to stabilize the economy and to recover the society's confidence in the national banking system. Though the government had earlier taken actions to stabilize the banking sector, they still suffered from the crisis.

6. To prevent the destruction of the national banking system, the government decided to undertake banking restructuring under the direction of the IMF, which meant forming the IBRA. The government used the IBRA for national banking restructuring by executing the banks' recapitalization program and banking resolution. It also formed the Assets Management Unit to handle the transfer of NPLs from the recapitalized banks.

7. The significant actions taken by government in restructuring the banking system were to give liquidity assistance of up to IDR 144.54 triliion for banking resolution and the injection of government bonds to some banks totaling up to IDR 430.4 trillion for banks' recapitalization. This was considered as "too big or too important to fail." Especially for banks' recapitalization, the ownership of

banking equity by government by the end of December 2000 had increased to 95.1% of total domestic banks (IDR44.59 trillion). If government did not save the domestic banks, the domination of national banking would be mastered by foreign banks and the Indonesian economy would become vulnerable. The number of banks that had asset quality falling towards NPLs would become more prone to bankruptcy and those whose current assets include debtors would face serious illiquidity. When the debtor banks become bankrupt, GDP will go down drastically and economic growth will stop with all the social consequences that are uncertain. For example, in 1997 the real GDP growth was 4.70%. In 1998, this went down to -13.10%; in 1999, it was only 0.80%, and in 2000, it became 4.9%.

8. In the Indonesia economic system, there is a real tight relationship between economic growth and banking credit supply. This is because the contribution of the banking system as a source of funds in Indonesia is as high as average 73.59% (calculated from total of national banks assets, foreign direct investment, domestic investment and JSX Market capitalization during 1997-2004) and if the LDR (loan to deposit ratio) of banks come down, it means the GDP too will be lower.

5.2 Conclusion for a Futnre Research Agenda

In conclusion, it is important for any future research agenda to look at whether the decision on banks recapitalization can increase the performance of banks and at the same time had increased economic growth of the real sector (before and after recapitalization), and what had been their implications in Indonesia's economic recovery from the crises of 1997-1998.

APPENDICES

1	Commercial Bank Financial Statements Model	129
2	MANOVA Procedure	131

Appendix 1 Commercial Bank Financial Statements Model

BALANCE SHEET

	ASSETS			LIABILITIES AND SHAREHOLDERS' EQUITY	
1	Cash	xxx	1	Demand Deposits	xxx
2	Placement with Central Bank	xxx	2	Liabilities Immediately Payable	xxx
3	Current accounts with others Banks	xxx	3	Savings Deposits	xxx
4	Placement with others Banks	xxx	4	Time Deposits	xxx
5	Securities	xxx	5	Certificates of Deposit	xxx
6	Securities sold with agreement to repurchase	xxx	6	Deposits from other Banks	xxx
7	Government Recapitalization Bonds	xxx	7	Liabilities to repurchase securities sold with repo agreement	xxx
8	Securities purchased with agreement to resell (reverse repo)	xxx	8	Derivative Payable	xxx
9	Derivative receivables	xxx	9	Acceptances Payable	xxx
10	Loans	xxx	10	Securities Issued	xxx
11	Acceptances receivable	xxx	11	Fund Borrowings	xxx
12	Other receivables - trade transactions	xxx	12	Estimated Losses on Commitments and Contingences	xxx
13	Investment in Shares of Stock	xxx	13	Obligation under Capital Lessee	xxx
14	Accrued income	xxx	14	Accrued Expenses	xxx
15	Prepaid expenses	xxx	15	Taxes Payable	xxx
16	Prepaid tax	xxx	16	Deferred Tax Liabilities	xxx
17	Deferred tax assets	xxx	17	Other Liabilities	xxx
18	Premises and Equipment	xxx	18	Subordinated Loans	xxx
19	Abandoned property	xxx	19	Loan Capital	xxx
20	Leased assets	xxx	20	Minority Interest in Net Assets of Consolidated Subsidiaries	xxx
21	Repossessed assets	xxx	21	**Shareholder's Equity**	xxx
22	Other assets	xxx		Share capital	xxx
	TOTAL ASSETS	xxx		Additional Paid-in Capital/agio	
				Share options	xxx
				Funds for paid-up capital	xxx
				Differences arising frem Transactions of Foreign Currency Financial Statement	xxx
				Premises and Equipment Revaluation Income	xxx
				Unrealized (Losses) Gain from Securities and Government Recapitalization Bonds	xxx
				Retained Earnings (Accumulated Losses)	xxx
				Reacquired shares by subsidiary for trading purposes	xxx
				TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	xxx

Appendix 1 (continued)

STATEMENTS OF PROFIT AND LOSS

	DESCRIPTION	FOR BANK AND CONSOLIDATED (AUDITED)
	INCOME AND EXPENSES FROM OPERATIONS	
1	TOTAL INTEREST INCOME	
2	TOTAL INTEREST EXPENSES -/-	
	NET INTEREST INCOME	
3	**TOTAL OTHER OPERATING INCOME**	
4	Provision for Possible Losses on Earning Assets	
5	Addition of Estimated Losses on Commitments and Contingencies	
6	Provision for Possible Losses on Others	
7	**TOTAL OTHER OPERATING EXPENSES -/-**	
	PROFIT FROM OPERATIONS	
	NON-OPERATING INCOME AND EXPENSES	
8	Non operating income	
9	Non operating expenses	
	NON-OPERATING INCOME (EXPENSES) - NET	
10	Extraordinary Income/Expenses	
11	**PROFIT BEFORE INCOME TAX**	
12	Estimated Income Tax Expenses -/-	
	- Current	
	- Deferred	
13	**PROFIT BEFORE MINORITY INTERESTS**	
14	Minority Interests -/-	
15	Accumulated losses Beginning of the Year	
16	Dividend -/-	
	Others -/-	
17	Accumulated losses End of the Year	
18	**EARNING PER SHARE**	
	- Basic	
	- Diluted	

Source: Adapted from PT Bank Mandiri (Persero) Tbk, the Balance Sheets as of June 30, 2005.

Appendix 2 MANOVA Proeedure

The MANOVA test is used to assess the overall difference in bank performance by CAMELS ratio before and after listing (but also can used to assess for groups of banks).

The bases processes in MANOVA are:

1. To test the MANOVA data's assumptions;
2. To test the difference between group (Core of MANOVA); and
3. Output interpretation and result validation process.

Based on the CAMELS ratio data structure on WILCOSON sign-rank test, the equations for all of banks can express by:

$$Y = X_1 + X_2 + ... + X_n$$

Alternatively, for group of banks can expressed by:

$$Y_1 + Y_2 + Y_2 + Y_3 + Y_4 = X_1 + X_2 + ... + X_n$$

Where Y as independent variables, and X_1 until X_n as dependent variables (CAMELS ratio):

Y_1 = State Owned Banks;
Y_2 = Bank Taken Over;
Y_3 = B Category Banks; and
Y_4 = Regional Development Banks.

To test the variance-covariance assumption from MANOVA

The test used together with Box's M

Ho = All of dependent variables have equals of covariance matrices on the group (each groups).
Ha = All of dependent variables have different of covariance matrices on the group (each groups).

Decision criteria:
If Sig. value > 0.05 then Ho accepted
If Sig. value < 0.05 then Ho rejected

Individual test used Levene test for equality of error variances (decision criteria same with Box's M test). If the variance-covariance assumption can recognize then MANOVA analysis process can continued.

For Output of Multivariate significance test by Pillai Trace, Wilk's Lambda, Hotelling Trace, and Roy's Largest Root procedure (The decisions criteria same with above). All of the process should be used by SPSS software Version 13.

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9. **Educational background** :

- **Bandung Institute of Technology (ITB)**, Faculty of Post Graduated of Industrial Engineering and Management Programme, MSc. (S-2) Magisterial Degree, Bandung, 1996.
- **Dharma Yadi Technical High School**, Industrial Engineering and Management, Industrial Engineering Programme, Ir. (S-1) degree, Ujung Pandang, 1991.
- **Polytechnic North Sumatera University**, Electrical Engineering Department, DIII (Diploma) Degree, Medan, 1986.

10. **Other education/training/course**:

- **Banking Macro Workshop for Media**, PT Bank Mandiri (Persero), Semarang, July 17 –19 2002.
- **Customer Profitability Analysis**, HBL Hadori & Rekan, November 7 –9, 2001.

- **Selling Commercial and Corporate Bank Services**, PT Bank Mandiri (Persero), incorporate with Citibank N.A., Jakarta July 30 – August 3, 2001.
- **Basic Treasury**, Bath V, PT Bank Mandiri (Persero) Jakarta, July 23 – July 27, 2001.
- **Information System of Offiee Administration**, Widyaloka Jakarta, May 5 – June 4, 1999,
- **Education and Training: Reserse Field Orientation**, at PUSDIK-RESINTELPAM LEMDIKLAT POLRI, Megamendung Cisarua-Bogor, and August 4 - September 3, 1997.
- **Course of Management Training for Banking Practice**, by PT BDN (Persero) at Wisma Baja, Jakarta, March 3 - June 3, 1997.
- **Course and Training Work Ethos**, by Experd (Executive Performance Development, at Wisma Baja, Jakarta, May 26-28, 1997.
- **Environmental Assessment**, Ecology Institute of **Padjajaran University**, Bandung, August 22 - September 3, 1994.
- **System and Energy Management**, Polytechnic Education and Development Center (PEDC) Bandung Institute of Technology (ITB), Bandung, February 18 - March 16, 1991.
- **Education and Training for Trainer**, Industrial Technology Department, PEDC Bandung Institute of Technology, Bandung, November 3, 1986 - August 15, 1987.
- **Military Basic Training**, KODIKLAT Dam-II/BB, Pematang Siantar, August 22 - September 18, 1983.
- **Penataran P4 Supporting Sebeme**, North Sumatra University Camp, Medan, September 1983,

11. **Seminar /Workshop**:
    - **Seminar "The Proaetive Operational Risk Management,"** Federation of Indonesian Associations of Banks (FIAB) and Indonesian Risk Professional Association (IRPA), Hilton Hotel, Jakarta February 20-21, 2003 as **Participant**.
    - Seminar "**Eeonomic Prospect 2003 Enhanee Electiou 2004**," Mandarin Hotel Jakarta, carried out by Bisnis Indonesia, November 5, 2002 as **participant.**
    - Seminar "**Government Debt: Sustainable**?", Shangrilla Hotel Jakarta, be held by CBPlus Mondial, October 31, 2002 as **participant.**
    - Seminar, Management Department Binus University "***Balance Scored Card as Guidance in Strategic Implemented Become Action on Banking Industries,***" Kampus Syahdan, Jakarta as ***Speaker***, May 21, 2001.
    - ***National Seminar State Corporate Ownership*** by LP Nahdlatul Ulama and Yayasan Permadani Bangsa, Hotel Kartika Chandra, Jakarta, March 2, 2000 as **participant.**
    - ***Training Lecture Method***, Bina Nusantara University, Februari 13, 1999, Jakarta, as **participaut**
    - One Day Seminar "Risk Management and Basel II Principles," as **participant** Banker Institute of Indonesia, IBI Kemang Pratama Jakarta, July 25, 20002.
    - One Day Seminar "**Corporate Visioning**", as **participant**, be held by Produetivity & Quality Management Consultant, Aryaduta Hotel, July 3, 2002.
    - May 25-26, 1998, as **Trainer**, Canaro Banking Training Center holds Instructur on Banking Program Manager, for Bank Rama Officer Staff, Gedung YTKI Gatot Subroto, Jakarta.

- December 12-13, 1996, **Presented** on Workshop of Total Quality Environmental Management (TQEM), Hotel Bintang Jakarta.
- December 5, 1996, **Moderator** on National Workshop ISO 14001; Implementation and Strategic of ISO series 14000 for Handled Free Trade Era and Link with Business Law, be held by Magister Law Student of Padjajaran University at Le Meridien Hotel, Jakarta.
- May 25, 1996, **Presented** on Strategy for the Compete a Winner in Free Market Era, Export-Import Management Guidance 100 Hour Scheme, Angkatan ke-5 Cooperated among Research and Management Consultant Institute with Private Universities Coordinating Region IV, Bandung,
- October 31 - November 2 1996, **Speaker** on Indonesian Management Communication Forum be held by Management Studio of **ITB**, Aula Barat ITB, and Bandung.
- August 4 -5, 1995, attendance on Workshop on Greenhouse Gas Emission Inventories in Indonesia, Bogor Institute of Agriculture, Bogor.
- July 2-6, 1995, **Committee** on The Regional Southeast Asian Conference and Workshop on Eco-Efficiency and Cleaner Production for Enhancing Profitability and Competitiveness, Indonesian BCSD Cooperation with UNEP and BAPEDAL, Jakarta.
- June 6-8, 1995, attendance on the Conference on Remote Sensing and GIS for Environmental Resources Management, BPPT, Jakarta.
- January 25-16, 1995, attendance on The Seminar Natural Resources Inventories Technology, BPPT, Jakarta.
- December 12-13, 1994, attendance Workshop on Information Technology, Best Available Technology with Technology Transfer to Ward Business Community and Industry in Indonesia, LIPI, Bandung.
- December 16 - 17, 1994, attendance on two day National Seminar on Total Quality Environmental Management, Environmental Department of ITB, Bandung.
- November 24 -25, 1994, attendance on One Day Seminar on Hazardous Waste Management and Environmental Audit, Ecology Institute Padjajaran University, Bandung.
- June 15 -16, 1994, Attendance on Two Days Seminar on Clean Product and Clean Production Technology for Sustainable Industrial, Development Technology Center ITB, Bandung.
- November 8-9, 1993, attendance on Two day Seminar on Techno-Economy "Developing Strategic Alliances among ASEAN Corporations; The search for Complementary and Synergy", Management Studio ITB, Bandung.
- July 25, 1993, attendance on Seminar on Some Aspects of Production Planning and Control, Industrial Engineering of ITB, Bandung.
- February 7-12, 1991, **Speaker** on Student Leadership Training of Technical High School Dharma Yadi 1, Ujung Pandang.

12. **Paper and Publications** (all of articles or publication in Indonesian version, excepted MSM Working paper) :

- Article, Wujud Neokolonialisme Baru (Form of the New Colonialism), Media Indonesia Daily, June 28, 2005.

- Paper, the **Indonesian Banking Arcbitecture in Emerging Market:** Historical Lesson and Future Prospects. Economies Module Working Paper, European-American DBA Program, summer, 2004 (still in preparation to be submitted to Asia Pacific Journal of Management).
- Article. **Community Marketing in Retail Banking**, in Marketing Breakthrough Column. BUMN and Business Review, 11th Edition, p. 42, April 2004.
- Article. **Costumer Relationship Managcmcnt (CRM) and Costumer Inteiligence (CI) in Banking Industries**. Usahawan Magazine, No. 01/TH XXXII, p. 31-33, January 2003.
- Article, Management of Change Series (4) "***Virtual Capital***" Buletin Mandiri, Vol. 99. Minggu IV November 2002, issued by PT Bank Mandiri, November 25, 2002.
- Article, Management of Change Series (3) "**Transformational Leadership**?", Buletin Mandiri, Vol. 98. Minggu II November 2002, issued by PT Bank Mandiri, November 11, 2002.
- Article, Managetnent of Change Series (2) "**Becomc Corporate Intelligenee**", Buietin Mandiri, Vol. 97. Minggu V Oktober 2002, issued by PT Bank Mandiri, October 28, 2002.
- Article. Manageinent of Change Series (1) "**Vision Energizer, May Be**?", Buletin Mandiri, Vol. 95. Minggu I Oktober 2002, issued by PT Bank Mandiri, September 30, 2002
- Article, **Model of Corporate Assessment in Banking Perspective**, Bina Nusantara University, Jakarta, June 22, 2002.
- Article, **Balance Scorecard as Reference in Strategic Application Become Action in Banking Industries**, Bina Nusantara University, Jakarta, May 21, 2001.
- Book for Student, **Bauking Mauagement**, for Accounting Computer Department Bina Nusantara University, Jakarta, August 2000.
- Article, **Public Management in Millennium III Era**, Neraea & Ekonomi Daily, December 2, 1999.
- Article, **Technology Edueation Paradigni**, Neraca & Ekonoini Daily, Februari 11, 1999.
- Article, **Tbe New Scenario of Banking Merger of State Owned Enterprises**, Media Indonesia Daily, January 12 1999.
- Article, **Seenario of Banking Merger of State Owned Enterprises**, Media Indonesia Daily, September 21, 1998.
- Article. **TQEM in Banking Perspective,** Ekolita Magazine, Marc-April Edition 1999.
- Article. **Bank and Corporate World**. Usahawan Magazine, No. 08/TH XXVII, p. 27-30, August 1998.
- Article, **Business Clime Performanee in Crisis of Banking Fund**. Indonesian Banking Development Magazine, March - April 1998 Edition.
- Article **How to Triek the Merger of Government Bank**. Neraca & Economic Daily, February 27, 1998.
- Article. **Monetary Policy as Critical Factor of Banking Competitiveness**, Indonesian Banking Deveiopment Magazine, November - December 1997 Edition.
- Article. **Banking Internet: Will he Reality in Indonesia?** Neraca & Ekonomi Daily, Juiy 24-25, 1997.

- Article: Internet Technology Shock the Stocks Based on Operator of International Direct Connection. Neraca &Ekonomi Daily, July 3, 1997.
- Main Article: Total Quality Environmental Management for Economic Efficiency, Usahawan Magazine, No. 10/TH XXV, October 1996.
- Article: the Compete Strategy become a Winner in Free Market Era, Usahawan Magazine, No. 9/TH XXV, September 1996.
- Paper, the Compete Strategy become a Winner in Free Market Era, Presented on Export-Import Management Guidance 100-Hour Scheme, Angkatan ke-5 Cooperated among Research and Management Consultant Institute with Private Universities Coordinating Region IV, Bandung, May 25, 1996.
- Magister Thesis, **Cleaner Production Application on Enhaneing Profitability and Competitiveness on Textile Industry: Case Study PT."X"**, Bandung, January 27, 1996 (Under the supervision of Prof. Frans Mardi Hartanto, Phd. and DR. Suma Djajadiningrat).
- Article, **Time Base Competition**, Usahawan Magazine Number 12/TH XXIV, December 1995.
- Article, **ISO Series 14000 in Organization Learning Focus**, Usahawan Magazine Number 11/TH XXIV, p. 12-17, November 1995.
- Article, **To Anticipate ISO Series 14000**, Kompas Morning Daily News Papers, p. IV/5-9-V/8-9, September 7, 1995.
- Artiele, **Out Sourcing Strategy in Scbeme to Enbancing Efficicney**, Usahawan Magazine Number 07/TH XXIV, p. 14 - 19, July 1995.
- Article, **Turn A Round a Company Strategy**, Usahawan Magazine Number 03/TH XXIV, p. 10 -15, March 1995.
- Graduated thesis, **Feasibility Study of Palm Kernel Oil Plant Development in Mamuju Rigency**, Sulawesi Selatan, December 1990.

13. Work Experience:

- August 15, 1987 - March 30, 1992, Politeenich Hasanuddin University as Education Staff (**Leeture**) on Energy Engineering Department, Ujung Pandang.
- September 1989 - October 1990, **Head of Worksbop** on Energy Engineering Department of Hasanuddin University. Ujung Pandang.
- 1988, PT. Mitsui Ujung Pandang as **Sales Supervisor**.
- January - March 1992, PT Telkom Indonesia Bandung as **Sarjana Oriented I**.
- August 1, 1994 - January 1, 1996, Indonesian Business Council for Sustainable Development (Indonesian BCSD) Bandung as **Engineering Staff** (Assistant of Prof. Otto Soemarwoto, Senior Environmental Expert in Indonesia).
- May 1996 - Decemnber 15, 1996, Center for Economic and Environmental Studies (CEES) as **Executive Director**.
- December 15, 1997 – August 1, 1999, PT Bank Dagang Negara (Persero) Head Office, Corporate Two Division as **Professional Staff of Product Development.**
- February 1999 until now, lecture at Bina Nusantara University, Economy Faculty in Management Department (lecture on **Strategy Management, Banking Management, Financial Management I, Bank & Financial Institution and E-Corporation Management**).

- August 1, 1999 until December 2001, PT Bank Mandiri (Persero) Government Relations Management as **Relationship Manager**.
- January 1, 2002 until now, PT Bank Mandiri (Persero) Tbk., Office of Corporate Secretary, Corporate Communications Department as **Publieity and Media Relations Manager** (Corporate Communication Manager).

14. Consultancy Works:
    - Institution : Directorate of Bina Program, Human Settlement, Jakarta
      Worked: Strategy and Development Program for Housing and Settlement Sector Funded by OECF Japan as Data Analysis and Enumerator, December 1992 - July 1993.
    - Institution: General Directorate of Cipta Karya.
      Worked: Studies Project for Institutional Enhance for wastewater Center Infrastructure Medan City, Sumatera Utara as Management Specialist. November 1995 - March 1996.
    - Institution: General Directorate of Cipta Karya.
      Worked: City Rejuvenation Project for One Region on East District as Management Specialist at PT Galih Karsa Utama, August 1995 - Decemher 1995.
    - Institution: General Directorate of Cipta Karya.
      Worked: City Rejuvenation Project for Two Regions on Middle District as Management Specialist at PT TROPIC Konsultan, Jakarta, September 1995 - January.
    - Institution: General Directorate of Cipta Karya.
      Worked: City Rejuvenation Project for Three Region on West District as Management Specialist at PT. Bina Karya, Jakarta, October 1995 - March 1996.
    - Institution: National Logistic Bureau (BULOG)
      Worked: Plant Lay-Out Design: Developing Soybean Processing Studies Project as Team Leader at PT. Sapta Karya Dayatama, Jakarta, January 1996 - April 1996.
    - Institution : Perum Otorita Jatiluhur
      Worked: To Make Income and Account Receivable Software at Local Area Network, as Systetn Analysis Specialist at CV. Prima Cipta, Bandung, June 10, - August 1996.

15. Computer Proficiency : Microsoft Office (all package), SPSS

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